

Connected to Dialog via SMS00230

11/8/04

? b 344,347,350,371

[File 344] Chinese Patents Abs Jan 1985-2006/Jan  
(c) 2006 European Patent Office. All rights reserved.

[File 347] JAPIO Dec 1976-2006/Jan(Updated 061009)  
(c) 2006 JPO & JAPIO. All rights reserved.

[File 350] Derwent WPIX 1963-2006/UD=200671  
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*\*File 350: DWPI has been enhanced to extend content and functionality of the database. For more info, visit <http://www.dialog.com/dwpi/>.*

[File 371] French Patents 1961-2002/BOPI 200209

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*\*File 371: This file is not currently updating. The last update is 200209.*

; set hilight off

Hilight = off

; set hilight on

Hilight = on

? s bone? ?

s1 74407 s BONE? ?

? s fix??? or fixat????

Processing

2246930 FIX???

141720 FIXAT????

s2 2306703 s FIX??? OR FIXAT????

? s plate? ?

Processing

s3 2105063 s PLATE? ?

? s deform??? or deforma???? or shap??? s s1(5n)s2

207895 DEFORM???

297052 DEFORMA????

0 SHAP??? s s1

2306703 S2  
0 SHAP??? S S1(5N)S2  
S4 420830 S DEFORM??? OR DEFORMA???? OR SHAP??? S S1(5N)S2

? delete s4  
Set 4 has been deleted

? d s  
Set Items Description  
S1 74407 S BONE? ?  
S2 2306703 S FIX??? OR FIXAT????  
S3 2105063 S PLATE? ?

? s s1(5n)s3  
74407 S1  
2105063 S3  
S4 2444 S S1(5N)S3

? s deform??? or deforma???? or shape?? or shaping??  
207895 DEFORM???  
297052 DEFORMA????  
2112148 SHAPE??  
104552 SHAPING??  
S5 2473027 S DEFORM??? OR DEFORMA???? OR SHAPE?? OR SHAPING??

? s s4 and s5  
2444 S4  
2473027 S5  
S6 845 S S4 AND S5

? s hole? ? or opening? ? or aperture? ?  
Processing  
1360209 HOLE? ?  
1445890 OPENING? ?  
329380 APERTURE? ?  
S7 2849135 S HOLE? ? OR OPENING? ? OR APERTURE? ?

? s thread?? or threading??

295664 THREAD??

19512 THREADING??

s8 303793 S THREAD?? OR THREADING??

? s s7(10n)s8

Processing

2849135 s7

303793 s8

s9 52270 S S7(10N)S8

? s s6 and s9

845 s6

52270 s9

s10 76 S S6 AND S9

? d s

Set Items Description

s1 74407 S BONE? ?

s2 2306703 S FIX??? OR FIXAT????

s3 2105063 S PLATE? ?

s4 2444 S s1(5N)s3

s5 2473027 S DEFORM??? OR DEFORMA???? OR SHAPE?? OR SHAPING??

s6 845 S S4 AND S5

s7 2849135 S HOLE? ? OR OPENING? ? OR APERTURE? ?

s8 303793 S THREAD?? OR THREADING??

s9 52270 S S7(10N)S8

s10 76 S S6 AND S9

? s tool? ?

s11 662765 S TOOL? ?

? s s10 and s11

76 s10

662765 s11

s12 9 S S10 AND S11

? set hilight off

Hilight = off

; set hilight on

Hilight = On

? t s12/3,k/1-9

12/3,K/1 (Item 1 from file: 350)

Derwent WPIX

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0015961159 *Drawing available*

WPI Acc no: 2006-492827/200650

Related WPI Acc No: 2006-446308

XRXPX Acc No: N2006-397821

**Fracture fixation plate shaping kit for surgical devices, has handle of specific size and shape for engaging with tubular elements removably coupled in threaded holes in bone plate**

Patent Assignee: CASTANEDA J E (CAST-I); KORTENBACH J A (KORT-I); ORBAY J L (ORBA-I)

Inventor: CASTANEDA J E; KORTENBACH J A; ORBAY J L

Patent Family ( 1 patents, 1 countries )

Patent Number	Kind	Date	Application Number	Kind	Date	Update	Type
US 20060161158	A1	20060720	US 200411917	A	20041214	200650	B
			US 2006384841	A	20060320		

Priority Applications (no., kind, date): US 200411917 A 20041214; US 2006384841 A 20060320

Patent Details

Patent Number	Kind	Lan	Pgs	Draw	Filing Notes	
US 20060161158	A1	EN	16	18	C-I-P of application	US 200411917

**Fracture fixation plate shaping kit for surgical devices, has handle of specific size and shape for engaging with tubular elements removably coupled in threaded holes in bone plate**

**Original Titles:**

**Bone fracture fixation plate shaping system**

**Alerting Abstract ...NOVELTY - A shaping tool** has handle of specific size and shape for engaging with one of the tubular elements removably coupled in **threaded holes** (14) in a **bone plate** (10). Another **shaping tool** has handle and end sized and **shaped** to engage with other tubular elements.

... **shaping tool**; and **plate shaping** method... ... **USE** - For surgical devices for implanting and **shaping bone plates**.

... ... ADVANTAGE - The drilling of **holes** in the bone in alignment with **threaded holes** in the **bone plate** is performed effectively... ... 10 **bone plate**

... ... 18 **insertion tool**

Title Terms .../Index Terms/Additional Words: **SHAPE**;

## Original Publication Data by Authority

### Original Abstracts:

Removable guide tips are pre-assembled into **threaded holes** of a fracture fixation plate. The guide tips may be used with or without drill guides to guide a drill along the axes of **threaded holes** defined in the plate. In addition, the tips may be used with bending **tools** to contour the plate laterally, longitudinally and with twist. More particularly, such plate contouring can be performed while the **plate** is located on the **bone**. >

### Claims:

What is claimed is:1. A fracture fixation plate shaping kit, comprising:a) a bone plate including a plurality of longitudinally displaced threaded holes;b) a plurality of removable tubular elements removably coupled in said threaded holes;c) a first shaping tool having a handle portion and a portion sized and shaped to engage with one of said tubular elements; andd) a second shaping tool having a handle portion and an end portion sized and shaped to engage with another of said tubular elements, said first and second shaping tools engageable with said tubular elements for the manual application of force to said bone plate to bend said bone plate.

12/3,K/2 (Item 2 from file: 350)

Derwent WPIX

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0014214010 *Drawing available*

WPI Acc no: 2004-399752/200437

Related WPI Acc No: 2004-399753; 2004-399754; 2004-399755; 2004-399761; 2005-295310

XRPX Acc No: N2004-318686

**Bone fixation used for support, movement, protection, storage of minerals in blood cells of human involves securing bone plate to second portion of bone while adjusting angular disposition of bone plate relative to two bone portions**

Patent Assignee: ACUMED LLC (ACUM-N); HUEBNER R J (HUEB-I)

Inventor: HORST S P; HUEBNER R J

Patent Family ( 16 patents, 107 countries )

Patent Number	Kind	Date	Application Number	Kind	Date	Update	Type
US 20040102775	A1	20040527	US 2002427908	P	20021119	200437	B
			US 2002427910	P	20021119		
			US 2003512111	P	20031017		
			US 2003512136	P	20031017		

			US 2003512322	P	20031017		
			US 2003512323	P	20031017		
			US 2003717015	A	20031119		
WO 2004045384	A2	20040603	WO 2003US36926	A	20031119	200437	E
WO 2004045455	A2	20040603	WO 2003US37179	A	20031119	200437	E
AU 2003294342	A1	20040615	AU 2003294342	A	20031119	200470	E
AU 2003294414	A1	20040615	AU 2003294414	A	20031119	200470	E
WO 2005037114	A1	20050428	WO 2004US34571	A	20041018	200529	E
WO 2005046494	A1	20050526	WO 2003US37066	A	20031119	200535	E
AU 2003291114	A1	20040606	AU 2003291114	A	20031119	200553	E
EP 1572045	A2	20050914	EP 2003789897	A	20031119	200560	E
			WO 2003US37179	A	20031119		
AU 2003291114	A8	20050606	AU 2003291114	A	20031119	200565	E
GB 2412875	A	20051012	WO 2003US37179	A	20031119	200567	E
			GB 200512491	A	20050620		
JP 2006506194	W	20060223	WO 2003US37179	A	20031119	200619	E
			JP 2004553986	A	20031119		
AU 2003294342	A8	20051110	AU 2003294342	A	20031119	200634	E
GB 2412590	B	20060517	WO 2003US37231	A	20031119	200634	E
			GB 200512488	A	20050620		
KR 2005083916	A	20050826	WO 2003US37179	A	20031119	200647	E
			KR 2005709077	A	20050519		
KR 2005075440	A	20050720	WO 2003US37231	A	20031119	200648	E
			KR 2005709089	A	20050519		

Priority Applications (no., kind, date): US 2003512323 P 20031017; US 2003512322 P 20031017; US 2003512136 P 20031017; US 2003512111 P 20031017; US 2002427910 P 20021119; US 2002427908 P 20021119; US 2003717015 A 20031119

#### Patent Details

Patent Number	Kind	Lan	Pgs	Draw	Filing Notes	
US 20040102775	A1	EN	15	13	Related to Provisional	US 2002427908
					Related to Provisional	US 2002427910
					Related to Provisional	US 2003512111
					Related to Provisional	US 2003512136
					Related to Provisional	US 2003512322
					Related to Provisional	US 2003512323

WO 2004045384	A2	EN				
National Designated States, Original	AE AG AL AM AT AU AZ BA BB BG BR BW BY BZ CA CH CN CO CR CU CZ DE DK DM DZ EC EE EG ES FI GB GD GE GH GM HR HU ID IL IN IS JP KE KG KP KR KZ LC LK LR LS LT LULV MA MD MG MK MN MW MX MZ NI NO NZ OM PG PH PL PT RO RU SC SD SE SG SK SL SY TJ TM TN TR TT TZ UA UG US UZ VC VN YU ZA ZM ZW					

Regional Designated States, Original	AT BE BG BW CH CY CZ DE DK EA EE ES FI FR GB GH GM GR HU IE IT KE LS LU MC MW MZ NL OA PT RO SD SE SI SK SL SZ TR TZ UG ZM ZW				
WO 2004045455	A2	EN			
National Designated States, Original	AE AG AL AM AT AU AZ BA BB BG BR BY BZ CA CH CN CO CR CU CZ DE DK DM DZ EC EE ES FI GB GD GE GH GM HR HU ID IL IN IS JP KE KG KP KR KZ LC LK LR LS LT LU LV MA MD MG MK MN MW MX MZ NI NO NZ OM PG PH PL PT RO RU SC SD SE SG SK SL SY TJ TM TN TR TT TZ UA UG US UZ VC VN YU ZA ZM ZW				
Regional Designated States, Original	AT BE BG BW CH CY CZ DE DK EA EE ES FI FR GB GH GM GR HU IE IT KE LS LU MC MW MZ NL OA PT RO SD SE SI SK SL SZ TR TZ UG ZM ZW				
AU 2003294342	A1	EN		Based on OPI patent	WO 2004045384
AU 2003294414	A1	EN		Based on OPI patent	WO 2004045455
WO 2005037114	A1	EN			
National Designated States, Original	AE AG AL AM AT AU AZ BA BB BG BR BW BY BZ CA CH CN CO CR CU CZ DE DK DM DZ EC EE EG ES FI GB GD GE GH GM HR HU ID IL IN IS JP KE KG KP KR KZ LC LK LR LS LT LU LV MA MD MG MK MN MW MX MZ NA NI NO NZ OM PG PH PL PT RO RU SC SD SE SG SK SL SY TJ TM TN TR TT TZ UA UG US UZ VC VN YU ZA ZM ZW				
Regional Designated States, Original	AT BE BG BW CH CY CZ DE DK EA EE ES FI FR GB GH GM GR HU IE IT KE LS LU MC MW MZ NA NL OA PL PT RO SD SE SI SK SL SZ TR TZ UG ZM ZW				
WO 2005046494	A1	EN			
National Designated States, Original	AE AG AL AM AT AU AZ BA BB BG BR BW BY BZ CA CH CN CO CR CU CZ DE DK DM DZ EC EE EG ES FI GB GD GE GH GM HR HU ID IL IN IS JP KE KG KP KR KZ LC LK LR LS LT LU LV MA MD MG MK MN MW MX MZ NI NO NZ OM PG PH PL PT RO RU SC SD SE SG SK SL SY TJ TM TN TR TT TZ UA UG US UZ VC VN YU ZA ZM ZW				
Regional Designated States, Original	AT BE BG BW CH CY CZ DE DK EA EE ES FI FR GB GH GM GR HU IE IT KE LS LU MC MW MZ NL OA PT RO SD SE SI SK SL SZ TR TZ UG ZM ZW				

AU 2003291114	A1	EN		Based on OPI patent	WO 2005046494
EP 1572045	A2	EN		PCT Application	WO 2003US37179
				Based on OPI patent	WO 2004045455
Regional Designated States, Original	AL AT BE BG CH CY CZ DE DK EE ES FI FR GB GR HU IE IT LI LT LU LV MC MK NL PT RO SE SI SK TR				
AU 2003291114	A8	EN		Based on OPI patent	WO 2005046494
GB 2412875	A	EN		PCT Application	WO 2003US37179
				Based on OPI patent	WO 2004045455
JP 2006506194	W	JA	22	PCT Application	WO 2003US37179
				Based on OPI patent	WO 2004045455
AU 2003294342	A8	EN		Based on OPI patent	WO 2004045384
GB 2412590	B	EN		PCT Application	WO 2003US37231
				Based on OPI patent	WO 2004045389

KR 2005083916	A	KO		PCT Application	WO 2003US37179
				Based on OPI patent	WO 2004045455
KR 2005075440	A	KO		PCT Application	WO 2003US37231
				Based on OPI patent	WO 2004045389

... used for support, movement, protection, storage of minerals in blood cells of human involves securing bone plate to second portion of bone while adjusting angular disposition of bone plate relative to two bone portions  
**Original Titles:**

**BONE PLATES WITH SLOTS... ...Bone plates with slots... ...DEFORMABLE BONE PLATES**

**... ...DEFORMABLE BONE PLATES**

**... ...Adjustable bone plates**

**... ...Deformable bone plates**

**... ...Bone plates with slots... ...DEFORMABLE BONE PLATES**

**... ...PLAQUES VISSEES DEFORMABLES**

**... ...BONE PLATES WITH SLOTS**

**Alerting Abstract** ...NOVELTY - The method involves securing a **bone plate** (50) to a second portion of a bone while adjusting the angular disposition of **bone plate** relative to the two portions of the bone.

**DESCRIPTION** - An INDEPENDENT CLAIM is also included for a **bone plate** for **bone** fixation...

**... DESCRIPTION OF DRAWINGS** - The figure is a volar view of the distal radius and the **bone plate**.

**... ...50 Bone plate**

## Original Publication Data by Authority

### Original Abstracts:

**Bone plates** configured to be **deformed** after the **bone plates** have being secured to **bone**, apparatus including the **bone plates**, and methods of using the **bone plates** to fix **bones**.

**Bone**... ... Bone plates having slots configured to permit positioning of the bone plates on bone, and methods of using the bone plates for bone fixation... ... A system, including method, apparatus, components, and kits, for guiding a hole-forming **tool** and/or a fastener through a bone and then to a bone-repair device that... ... **Bone plates** configured to be **deformed** after the **bone plates** have being secured to **bone**, apparatus including the **bone plates**, and methods of using the **bone plates** to fix **bones**.

... ... La presente invention a trait a des plaques vissees conformes a etre **deformees** apres leur solidarisation a l'os, un appareil comprenant les plaques vissees, et des procedes... ... Systems, including methods, apparatus, and kits, for fixing the distal radius with **bone plates**. A **bone plate** (80) according to the invention has a proximal portion (84) a distal portion (86) and a plurality of **apertures** including nonlocking (nonthreaded) **apertures** 92 and locking (threaded) **apertures** 94 (Figure 5... ... **Bone plates** having slots configured to permit positioning of the **bone plates** on **bone**, and methods of using the **bone plates** for **bone** fixation

### Claims:

comprising: placing respective first and second fasteners through an opening and a slot of a **bone plate** and into a first portion of a bone having a discontinuity flanked by the first... ... with the opening and the slot to define a permitted range of motion for the **bone plate**; securing the **bone plate** to the second portion of the bone; adjusting an angular disposition of the **bone plate** relative to the first portion of the bone after the steps of placing and securing... ... of the first and second portions of the bone; and fixing the angular disposition of the **bone plate** relative to the first portion of the bone.

12/3,K/3 (Item 3 from file: 350)

Derwent WPIX

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0013392209 *Drawing available*

WPI Acc no: 2003-482186/200345

XRAM Acc no: C2003-128914

XRPX Acc No: N2003-383474

**Plate for osteosynthesis has elongate shape body provided with holes for passage of corresponding screws for fixing to bone, and reduced section defining intermediate point of greater flexibility**

Patent Assignee: BIOTEK SRL (BIOT-N); DEL MEDICO N (DMED-I); VESE S (VESE-I)

Inventor: DEL MEDICO N

Patent Family ( 6 patents, 99 countries )

Patent Number	Kind	Date	Application Number	Kind	Date	Update	Type
WO 2003039384	A1	20030515	WO 2002IB3742	A	20020911	200345	B
EP 1448110	A1	20040825	EP 2002765230	A	20020911	200456	E
			WO 2002IB3742	A	20020911		
AU 2002330363	A1	20030519	AU 2002330363	A	20020911	200464	E
US 20050010225	A1	20050113	WO 2002IB3742	A	20020911	200506	E
			US 2004494894	A	20040507		
CN 1585624	A	20050223	CN 2002822288	A	20020911	200537	E
IT 1331886	B	20060125	IT 2001TO1059	A	20011109	200611	E

Priority Applications (no., kind, date): IT 2001TO1059 A 20011109

Patent Details

Patent Number	Kind	Lan	Pgs	Draw	Filing Notes
WO 2003039384	A1	EN	12	6	
National Designated States, Original	AE AG AL AM AT AU AZ BA BB BG BR BY BZ CA CH CN CO CR CU CZ DE DK DM DZ EC EE ES FI GB GD GE GH GM HR HU ID IL IN IS JP KE KG KP KR KZ LC LK LR LS LT LU LV MA MD MG MK MN MW MX MZ NO NZ OM PH PL PT RO RU SD SE SG SI SK SL TJ TM TN TR TT TZ UA UG US UZ VN YU ZA ZM ZW				

Regional Designated States, Original	AT BE BG CH CY CZ DE DK EA EE ES FI FR GB GH GM GR IE IT KE LS LU MC MW MZ NL OA PT SD SE SK SL SZ TR TZ UG ZM ZW				
EP 1448110	A1	EN		PCT Application	WO 2002IB3742
				Based on OPI patent	WO 2003039384
Regional Designated States, Original	AL AT BE BG CH CY CZ DE DK EE ES FI FR GB GR IE IT LI LT LU LV MC MK NL PT RO SE SI SK TR				
AU 2002330363	A1	EN		Based on OPI patent	WO 2003039384
US 20050010225	A1	EN		PCT Application	WO 2002IB3742

**Plate for osteosynthesis has elongate shape body provided with holes for passage of corresponding screws for fixing to bone, and reduced...**

**Alerting Abstract ...NOVELTY** - An osteosynthesis plate has an elongate **shape** body (2) provided with holes for the passage of corresponding screws (6) for fixing to...

**DESCRIPTION** - An osteosynthesis plate has an elongate **shape** body provided with holes for the passage of corresponding screws for fixing to a bone... ... The reduced section is coupled with a mobile portion of the complementary **shape** provided with a mechanism to constrain the mobile portion to the elongate body to decrease... ...  
**ADVANTAGE** - The inventive plate can be manufactured in different **shapes** and sizes to suit different types of bones and fractures. The screw allows varying of...

**Technology Focus ...**

The mechanism comprises a screw having a threaded body that engages into an internally **threaded** pin inserted into a through **hole** obtained in the mobile portion... ... The reduced section is obtained by making a frustoconical **threaded** through **hole**.

... ... The mobile portion is a **threaded** frustoconical screw of **shape** complementary to the frustoconical **hole**. The frustoconical screw is provided with a seat for inserting a screwdriver **tool**.

... ... seat is accessible from a side of the plate opposite to the side facing the **bone** to which the **plate** is applied

**Title Terms .../Index Terms/Additional Words: SHAPE;**

**Original Publication Data by Authority**

**Original Abstracts:**

an increased flexibility, said portion (11) being coupled with a mobile portion (14) of complementary **shape** provided with means (12) allowing, by acting from the exterior of the plate, to constrain... ... an increased flexibility. The portion of reduced section coupled with a mobile portion of complementary **shape** acting from the exterior of the plate, to constrain the mobile portion to the body... ... an increased flexibility, said portion (11) being coupled with a mobile portion (14) of complementary **shape** provided with means (12) allowing, by acting from the exterior of the plate, to constrain...

**Claims:**

What is claimed is:1. A plate for osteosynthesis, comprising a body of elongate **shape**, provided with a plurality of holes for the passage of corresponding screws for the fixing to a bone wherein said body of elongate **shape**, includes a portion of reduced section having a cross-sectional area smaller than the cross-sectional area of said body of

elongate **shape** to define an intermediate point, said intermediate point having a greater flexibility than said body of elongate **shape**, said portion of reduced section being coupled with a mobile portion of complementary **shape** provided with an adjustable member adjustable from the exterior of said plate, to constrain said mobile portion to said body of elongate **shape** in order to decrease the flexibility of said intermediate point.

12/3,K/4 (Item 4 from file: 350)

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0010766599 *Drawing available*

WPI Acc no: 2001-380698/200140

XRPX Acc No: N2001-279113

**Self-drilling and tapping multi-drive bone screw for rigid fixation of craniomaxillofacial tissue grafts and bone plates includes tip which incorporates twist drill shaft with sharp cutting point tip**

Patent Assignee: BALFOUR A R (BALF-I); CARCHIDI J E (CARC-I)

Inventor: BALFOUR A R; CARCHIDI J E

Patent Family ( 2 patents, 1 countries )

Patent Number	Kind	Date	Application Number	Kind	Date	Update	Type
US 20010004694	A1	20010621	US 199881605	P	19980414	200140	B
			US 1999290433	A	19990413		
US 6398785	B2	20020604	US 1999290433	A	19990413	200242	E

Priority Applications (no., kind, date): US 199881605 P 19980414; US 1999290433 A 19990413

Patent Details

Patent Number	Kind	Lan	Pgs	Draw	Filing Notes	
US 20010004694	A1	EN	5	7	Related to Provisional	US 199881605

**drilling and tapping multi-drive bone screw for rigid fixation of craniomaxillofacial tissue grafts and bone plates includes tip which incorporates twist drill shaft with sharp cutting point tip**

**Original Titles:**

APPARATUS FOR RIGIDLY FIXING CRANIMAXILLOFACIAL TISSUE GRAFTS AND BONE PLATES  
...Apparatus for rigidly fixing craniomaxillofacial tissue grafts and bone plates.

**Alerting Abstract** ...twist drill shaft with a sharp cutting point tip (12b) to pierce and drill pilot hole and prepare for the insertion of self-tapping screw **threads** (12c). The cylindrical dome **shaped** head (14) allow rigid fixation of craniomaxillofacial tissue grafts and geometrically sized **bone plates** is formed on the screw distal to the drilling and

tapping features.

**DESCRIPTION** - A spline feature (14e) is incorporated into the cylindrically dome shaped head for easy pickup, assembly and insertion of the bone screw with a corresponding spline driver tool (20). The spline driver feature also allows the bone screw (10) to be driven with either a standard square or cross blade driver tool. An INDEPENDENT CLAIM includes a driving tool.

... USE - Bone screw for rigid fixation of craniomaxillofacial tissue grafts and bone plates.

... 14 Cylindrical dome shaped head... 20 Spline driver tool

## Original Publication Data by Authority

### Original Abstracts:

and tapping multi-drive bone screw (10) for rigid fixation of craniomaxillofacial tissue grafts and bone plates has a tip (12a) which incorporates a defined twist drill shaft with a sharp cutting point tip (12b) to easily pierce and drill a pilot hole and prepare for the insertion of self-tapping screw threads (12c). A cylindrical dome shaped head (14) for rigid fixation of craniomaxillofacial tissue grafts and geometrically sized bone plates is formed on the screw distal to the drilling and tapping features. A spline feature (14e) is incorporated into the cylindrically dome shaped head for easy pickup, assembly and insertion of the bone screw with a corresponding spline driver tool (20). The spline driver feature also allows the bone screw (10) to be driven with either a standard square or cross blade driver tool...

... A self-drilling and tapping multi-drive bone screw (10) for rigid fixation of craniomaxillofacial tissue grafts and bone plates has a tip (12a) which incorporates a defined twist drill shaft with a sharp cutting point tip (12b) to easily pierce and drill a pilot hole and prepare for the insertion of self-tapping screw threads (12c). A cylindrical dome shaped head (14) for rigid fixation of craniomaxillofacial tissue grafts and geometrically sized bone plates is formed on the screw distal to the drilling and tapping features. A spline feature (14e) is incorporated into the cylindrically dome shaped head for easy pickup, assembly and insertion of the bone screw with a corresponding spline driver tool (20). The spline driver feature also allows the bone screw (10) to be driven with either a standard square or cross blade driver tool.

### Claims:

What is claimed: 1. Apparatus for retention of tissue grafts and bone plates to a bone site comprising an elongated body member having a generally cylindrical shaft having a longitudinal axis... Apparatus for retention of tissue grafts and bone plates to a bone site comprising an elongated bone screw body member having a generally cylindrical shaft having a...

12/3,K/5 (Item 5 from file: 350)

Derwent WPIX

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0010587519 *Drawing available*

WPI Acc no: 2001-192605/200120

XRPX Acc No: N2001-136919

**Instruments for implanting tendon incorporate button with openings in for fixture filaments, outer aperture of bone-duct and plate shaped body**

Patent Assignee: SAUER M (SAUE-I); STORZ GMBH & CO KARL (STOR-N); STORZ GMBH & CO KG KARL

(STOR-N); STROBEL M (STRO-I)  
Inventor: SAUER M; STROBEL M

Patent Family ( 7 patents, 25 countries )

Patent Number	Kind	Date	Application Number	Kind	Date	Update	Type
DE 19941574	A1	20010308	DE 19941574	A	19990901	200120	B
WO 2001015634	A1	20010308	WO 2000EP8567	A	20000901	200121	E
EP 1212008	A1	20020612	EP 2000967641	A	20000901	200239	E
			WO 2000EP8567	A	20000901		
US 20020161439	A1	20021031	WO 2000EP8567	A	20000901	200274	E
			US 200285515	A	20020228		
EP 1212008	B1	20040616	EP 2000967641	A	20000901	200439	E
			WO 2000EP8567	A	20000901		
DE 50006841	G	20040722	DE 50006841	A	20000901	200450	E
			EP 2000967641	A	20000901		
			WO 2000EP8567	A	20000901		
US 6902573	B2	20050607	WO 2000EP8567	A	20000901	200538	E
			US 200285515	A	20020228		

Priority Applications (no., kind, date): DE 19941574 A 19990901

Patent Details

Patent Number	Kind	Lan	Pgs	Draw	Filing Notes	
DE 19941574	A1	DE	15	14		
WO 2001015634	A1	DE				
National Designated States,Original	US					
Regional Designated States,Original	AT BE CH CY DE DK ES FI FR GB GR IE IT LU MC NL PT SE					
EP 1212008	A1	DE			PCT Application	WO 2000EP8567
					Based on OPI patent	WO 2001015634
Regional Designated States,Original	AL AT BE CH CY DE DK ES FI FR GB GR IE IT LI LT LU LV MC MK NL PT RO SE SI					
US 20020161439	A1	EN			Continuation of application	WO 2000EP8567
EP 1212008	B1	DE			PCT Application	WO 2000EP8567
					Based on OPI patent	WO 2001015634
Regional Designated States,Original	DE FR GB IT					
DE 50006841	G	DE			Application	EP 2000967641
					PCT Application	WO 2000EP8567
					Based on OPI patent	EP 1212008
					Based on OPI patent	WO 2001015634
US 6902573	B2	EN			Continuation of application	WO 2000EP8567

## **Instruments for implanting tendon incorporate button with openings in for fixture filaments, outer aperture of bone-duct and plate shaped body**

**Alerting Abstract** ...aperture (33) of a bone-duct (32) containing the replacement tendon (16). The button has openings (58,60) through which are **threaded** the fixture filaments (36-39) of the replacement tendon. A center protuberance in the form of a cylindrical **pin-shaped** neck (50) fits into the aperture in a matching recess in the bone-duct when the button is placed on it. The button has a **plate-shaped** body (46)which has edges against which a **tool** can be placed for turning the button.

...**DESCRIPTION OF DRAWINGS** - The drawing shows a button placed against the **aperture** of a bone-duct, with four fixture filaments **threaded** through **openings**.

**Title Terms** .../Index Terms/Additional Words: **SHAPE**;

## **Original Publication Data by Authority**

### **Original Abstracts:**

bony canal (32) wherein the tendon transplant is situated. The button (40) is provided with **openings** (58, 60). Fixation **threads** (36-39) of the tendon transplant can be pulled through said openings. The button (40)... ... replacement in a channel within a bone comprises a button. Said button has a **plate-shaped** body and a cylindrical pin projecting from said **plate-shaped** body. At least two openings extend through that **plate-shaped** body and said cylindrical pin for threading fixation threads of a tendon replacement there through. Said **plate-shaped** body having edges adapted for applying a **tool** for rotating said button (FIG. 13... ... within a bone comprises a suture retention device. Said suture retention device has a **plate-shaped** body and a cylindrical pin projecting from said **plate-shaped** body. At least two openings extend through that **plate-shaped** body and said cylindrical pin for threading fixation threads of a tendon replacement therethrough. Said **plate-shaped** body having edges adapted for applying a **tool** for rotating said suture retention device (FIG. 13... ... bony canal (32) wherein the tendon transplant is situated. The button (40) is provided with openings (58, 60). Fixation threads (36-39) of the tendon transplant can be pulled through said openings. The button (40... ...

...

### **Claims:**

bone channel (32) in which the substitute tendon (16) is arranged, the button (40) comprises openings (58, 60) through which fixation threads (36 - 39) of the substitute tendon (16) can be threaded, and the button (40) comprising... ... opening (33) of the bone channel (32), in that the button (40) comprises a **plate-shaped** body (46) with the cylindrical pin (52) projecting therefrom, the button (40) can rest via the **plate-shaped** body (46) two-dimensionally and with frictional engagement in the area around the outer opening (33) of the bone channel (32), and in that the **plate-shaped** body (46) is provided with edges (54, 56) against which a **tool** (120) can be applied for rotating the button (40... ... tendon replacement in a channel in a bone comprising a button,said button having a **plate-shaped** body,a cylindrical pin projecting from said **plate-shaped** body and at least two openings extending through said **plate-shaped** body and said cylindrical pin for threading fixation threads of a tendon replacement... ... pin being configured to come to snugly fit within a countersunk recess in a channel within a bone, an area of said **plate-shaped** body surrounding said cylindrical pin being configured to come to rest to a bone surface surrounding said countersunk recess in said bone, and wherein said **plate-shaped** body having edges adapted for applying a turning tool thereon for turning said button with said tool... .

... in a channel in a bone comprising a suture retention device, said suture retention device having a plate-shaped body with first and second sides, a cylindrical pin projecting from the first side of said plate-shaped body; a recess in the second side of said plate-shaped body for accommodating ends of fixation threads of a tendon replacement; and at least two openings extending through said plate-shaped body and said cylindrical pin for threading of the fixation threads... ... wherein said cylindrical pin being configured to come to snugly fit within a countersunk recess in a channel within a bone, an area of said plate-shaped body surrounding said cylindrical pin being configured to come to rest to a bone surface surrounding said countersunk recess in said bone, and wherein said plate-shaped body having edges adapted for applying a turning tool thereon for turning said device with said tool.

12/3,K/6 (Item 6 from file: 350)

Derwent WPIX

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0010069809 *Drawing available*

WPI Acc no: 2000-375827/200032

XRPX Acc No: N2000-282289

**Inter-body fusion cage-plate fixation assembly for spinal surgery procedures comprises cage which is implanted between two vertebral bodies with attachment plate and fastener connecting plate**

Patent Assignee: SDGI HOLDINGS INC (SDGI-N)

Inventor: JOSSE L; LEHUEC J; LEHUEC J C; LIU M

Patent Family ( 9 patents, 88 countries )

Patent Number	Kind	Date	Application Number	Kind	Date	Update	Type
WO 2000024343	A1	20000504	WO 1999US25164	A	19991027	200032	B
AU 200012364	A	20000515	AU 200012364	A	19991027	200039	E
US 6156037	A	20001205	US 1998181362	A	19981028	200066	E
EP 1124511	A1	20010822	EP 1999970912	A	19991027	200149	E
			WO 1999US25164	A	19991027		
JP 2002528172	W	20020903	WO 1999US25164	A	19991027	200273	E
			JP 2000577960	A	19991027		
EP 1124511	B1	20050921	EP 1999970912	A	19991027	200563	E
			WO 1999US25164	A	19991027		
DE 69927398	E	20051027	DE 69927398	A	19991027	200571	E
			EP 1999970912	A	19991027		
			WO 1999US25164	A	19991027		
ES 2249063	T3	20060316	EP 1999970912	A	19991027	200622	E
DE 69927398	T2	20060706	DE 69927398	A	19991027	200645	E
			EP 1999970912	A	19991027		
			WO 1999US25164	A	19991027		

Priority Applications (no., kind, date): US 1998181362 A 19981028

Patent Details

Patent Number	Kind	Lan	Pgs	Draw	Filing Notes
WO 2000024343	A1	EN	31	17	
National Designated States, Original	AE AL AM AT AU AZ BA BB BG BR BY CA CH CN CR CU CZ DE DK EE ES FI GB GD GE GH GM HR HU ID IL IN IS JP KE KG KP KR KZ LC LK LR LS LT LU LV MA MD MG MK MN MW MX NO NZ PL PT RO RU SD SE SG SI SK SL TJ TM TR TT TZ UA UG US UZ VN YU ZA ZW				
Regional Designated States, Original	AT BE CH CY DE DK EA ES FI FR GB GH GM GR IE IT KE LS LU MC MW NL OA PT SD SE SL SZ TZ UG ZW				
AU 200012364	A	EN			Based on OPI patent WO 2000024343
EP 1124511	A1	EN			PCT Application WO 1999US25164
					Based on OPI patent WO 2000024343
Regional Designated States, Original	AT BE CH CY DE DK ES FI FR GB GR IE IT LI LU MC NL PT SE				
JP 2002528172	W	JA	29		PCT Application WO 1999US25164
					Based on OPI patent WO 2000024343
EP 1124511	B1	EN			PCT Application WO 1999US25164
					Based on OPI patent WO 2000024343
Regional Designated States, Original	AT BE CH CY DE DK ES FI FR GB GR IE IT LI LU MC NL PT SE				
DE 69927398	E	DE			Application EP 1999970912
					PCT Application WO 1999US25164

					Based on OPI patent EP 1124511
					Based on OPI patent WO 2000024343
ES 2249063	T3	ES			Application EP 1999970912
					Based on OPI patent EP 1124511
DE 69927398	T2	DE			Application EP 1999970912
					PCT Application WO 1999US25164
					Based on OPI patent EP 1124511
					Based on OPI patent WO 2000024343

**Alerting Abstract** ...projecting from a domed outer end (22). A contoured plate (11) is provided with an **aperture** that may be received on the stem. The stem **threads** receive a nut (21) to fix the **plate** to the cage. **Bone** screws anchor the **plate** to vertebral bodies (13,14). A hemispherical surface accommodates universal angulation of the plate relative...

DESCRIPTION - An INDEPENDENT CLAIMS is also included for a **tool** assembly...

**Original Publication Data by Authority**

### Original Abstracts:

projecting from a domed outer end (22). A contoured plate (11) is provided with an **aperture** (23A) receivable on the stem. The stem **threads** (26) receive a nut (21) to fix the **plate** to the cage. **Bone** screws (16-18) anchor the **plate** to vertebral bodies (13, 14). A hemispherical surface (23) on the plate (11) and surrounding... ... universal angulation of the plate relative to the cage. In addition to a cage installation **tool** (51), there is a plate installation **tool** assembly including a plate holder (31), a nut holder (34T) and cage adjuster (34), a... ... threaded stem projecting from a domed outer end. A contoured plate is provided with an **aperture** receivable on the stem. The stem **threads** receive a nut to fix the **plate** to the cage. **Bone** screws anchor the **plate** to vertebral bodies. A hemispherical surface on the plate and surrounding the stem-receiving aperture... ... universal angulation of the plate relative to the cage. In addition to a cage installation **tool**, there is a plate installation **tool** assembly including a cage installer, a plate holder, a nut holder and cage adjuster, a... ... projecting from a domed outer end (22). A contoured plate (11) is provided with an **aperture** (23A) receivable on the stem. The stem **threads** (26) receive a nut (21) to fix the **plate** to the cage. **Bone** screws (16-18) anchor the **plate** to vertebral bodies (13, 14). A hemispherical surface (23) on the plate (11) and surrounding... ... universal angulation of the plate relative to the cage. In addition to a cage installation **tool** (51), there is a plate installation **tool** assembly including a plate holder (31), a nut holder (34T) and cage adjuster (34), a...

### Claims:

11) and outer end (22) of said fusion device (12) having bearing surfaces (22, 23) **shaped** and inter-engaging such that said bearing surfaces (22, 23) facilitate various angulations of the... ... vertebral bodies, and said plate and outer end of said fusion device having bearing surfaces **shaped** and inter-engaging such that said bearing surfaces facilitate various angulations of the plate relative...

12/3,K/7 (Item 7 from file: 350)

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0009561743 *Drawing available*

WPI Acc no: 1999-508059/

XRPX Acc No: N1999-378607

**Dental implant system requiring minimal bone structure to mount dental prosthesis**

Patent Assignee: LIU C (LIUC-I)

Inventor: LIU C

Patent Family ( 1 patents, 1 countries )

Patent Number	Kind	Date	Application Number	Kind	Date	Update	Type
US 5944526	A	19990831	US 1996597613	A	19960206	199942	B

Priority Applications (no., kind, date): US 1996597613 A 19960206

### Patent Details

Patent Number	Kind	Lan	Pgs	Draw	Filing Notes
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**Alerting Abstract** ...NOVELTY - A saddle-shaped support has a shallow depression (114) at top center portion and two side walls (113a,113b). An anchor (116) having a **threaded hole** extending from the upper surface is positioned in the depression of the support. A cover...

**DESCRIPTION** - A nut is mounted on the anchor upper surface aligning with the **threaded hole** and an **opening** on the cover plate. A heating abutment or a crown abutment is fixed detachedly to... ...approximately 3 mm. The mating surfaces of the anchor and the support are spherical in **shape** for free orientation of the **threaded hole** axis. The support has a **hole** through which anchor extends. The cover plate extends from the sides of the anchor enclosing... ...as shallow drilling is required for seating support. Reduces cost of implanting as only conventional **tools** are used for fixing...

## Original Publication Data by Authority

### Original Abstracts:

The dental implant system includes a saddle-shaped support member that fits over the patient's jaw bone and has a shallow depression.... ... system is held in place by retaining wires that wrap around the patient's jaw **bone** and over the **cover plate**. The wires supply rigidity to the system. The anchor is threaded, such that a crown...

### Claims:

a patient's jaw, the system comprising: an anchor, having an upper surface and a **threaded hole** extending into the anchor from the upper surface; a saddle-shaped support member having two side walls separated by a top center portion, the top center... ... anchor within the shallow depression; and means for securing the cover plate and the saddle-shaped support member to the patient's jaw.

12/3,K/8 (Item 8 from file: 350)

Derwent WPIX

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0008897668 *Drawing available*

WPI Acc no: 1998-446887/199838

Related WPI Acc No: 1998-446890; 2002-664778

XRXPX Acc No: N1998-348370

**Automatic anterior cervical plating system for fusing human spine - has length sufficient to span adjacent cervical vertebrae with pair of bone screw receiving holes extending through the plate, and bone screw receiving holes associated**

Patent Assignee: MICHAELSON G K (MICH-I); MICHELSON G K (MICH-I); SDGI HOLDINGS INC (SDGI-N); SULZER SPINE-TECH LTD (SULZ); ZIMMER SPINE INC (ZIMM-N)

Inventor: MICHELSON G K; MITCHELSON G K

Patent Family ( 65 patents, 80 countries )

Patent Number	Kind	Date	Application Number	Kind	Date	Update	Type
WO 1998034553	A1	19980813	WO 1998US2212	A	19980211	199838	B
AU 199862687	A	19980826	AU 199862687	A	19980211	199902	E
EP 1006913	A1	20000614	EP 1998904937	A	19980211	200033	E
			WO 1998US2212	A	19980211		
US 6193721	B1	20010227	US 199737139	P	19970211	200114	E
			US 199822293	A	19980211		
US 20020045896	A1	20020418	US 199737139	P	19970211	200228	E
			US 199822293	A	19980211		
			US 2001754733	A	20010104		
US 6383186	B1	20020507	US 199737139	P	19970211	200235	E
			US 199822293	A	19980211		
			US 2000669912	A	20000926		
JP 2002515799	W	20020528	JP 1998534884	A	19980211	200238	E
			WO 1998US2212	A	19980211		
US 6398783	B1	20020604	US 199737139	P	19970211	200242	E
			US 199822293	A	19980211		
			US 2000618038	A	20000717		
US 6416528	B1	20020709	US 199737139	P	19970211	200253	E
			US 199822293	A	19980211		
			US 2000618035	A	20000717		
US 6454771	B1	20020924	US 199737139	P	19970211	200266	E
			US 199822293	A	19980211		
			US 2001754733	A	20010104		
US 20030018335	A1	20030123	US 199737139	P	19970211	200310	E
			US 199822293	A	19980211		
			US 2001754733	A	20010104		
			US 2002253678	A	20020924		
US 20030045880	A1	20030306	US 199737139	P	19970211	200320	E
			US 199822293	A	19980211		
			US 2001754733	A	20010104		
			US 2002253674	A	20020924		
US 6527776	B1	20030304	US 199737139	P	19970211	200320	E
			US 199822293	A	19980211		
			US 2000618157	A	20000717		
US 6592586	B1	20030715	US 199737139	P	19970211	200348	E
			US 199822293	A	19980211		
			US 2000618566	A	20000717		
US 6616666	B1	20030909	US 199737139	P	19970211	200361	E
			US 199822293	A	19980211		
			US 2000618039	A	20000717		
US 6620163	B1	20030916	US 199737139	P	19970211	200362	E
			US 199822293	A	19980211		
			US 2000618036	A	20000717		

US 20030181912	A1	20030925	US 199822293	A	19980211	200364	E
			US 2000618036	A	20000717		
			US 2003386275	A	20030311		
US 20030191471	A1	20031009	US 199822293	A	19980211	200367	E

			US 2000618036	A	20000717		
			US 2003386275	A	20030311		
			US 2003409805	A	20030409		
US 20030191472	A1	20031009	US 199822293	A	19980211	200367	E
			US 2000618036	A	20000717		
			US 2003386275	A	20030311		
			US 2003410902	A	20030410		
CA 2444222	A1	19980813	CA 2279936	A	19980211	200401	E
			CA 2444222	A	19980211		
CA 2444226	A1	19980813	CA 2279936	A	19980211	200401	E
			CA 2444226	A	19980211		
CA 2444232	A1	19980813	CA 2279936	A	19980211	200401	E
			CA 2444232	A	19980211		
CA 2445299	A1	19980813	CA 2279936	A	19980211	200403	E
			CA 2445299	A	19980211		
CA 2445303	A1	19980813	CA 2279936	A	19980211	200403	E
			CA 2445303	A	19980211		
CA 2445319	A1	19980813	CA 2279936	A	19980211	200403	E
			CA 2445319	A	19980211		
EP 1393687	A2	20040303	EP 1998904937	A	19980211	200417	E
			EP 200328649	A	19980211		
EP 1393688	A2	20040303	EP 1998904937	A	19980211	200417	E
			EP 200328650	A	19980211		
EP 1393689	A2	20040303	EP 1998904937	A	19980211	200417	E
			EP 200328651	A	19980211		
US 6712818	B1	20040330	US 199737139	P	19970211	200423	E
			US 199822293	A	19980211		
			US 2000618048	A	20000717		
EP 1402832	A2	20040331	EP 1998904937	A	19980211	200424	E
			EP 200328960	A	19980211		
EP 1402833	A2	20040331	EP 1998904937	A	19980211	200424	E
			EP 200328961	A	19980211		
EP 1402834	A2	20040331	EP 1998904937	A	19980211	200424	E
			EP 200328962	A	19980211		
EP 1402835	A2	20040331	EP 1998904937	A	19980211	200424	E
			EP 200328963	A	19980211		
EP 1402836	A2	20040331	EP 1998904937	A	19980211	200424	E
			EP 200328964	A	19980211		
US 20040122426	A1	20040624	US 199737139	P	19970211	200442	E
			US 199822293	A	19980211		

			US 2001754733	A	20010104		
			US 2002253678	A	20020924		
			US 2003664776	A	20030917		
US 20040220572	A1	20041104	US 199737139	P	19970211	200473	E
			US 199822344	A	19980211		
			US 2000669912	A	20000926		
			US 200298991	A	20020315		
			US 2004802906	A	20040317		
US 20040236334	A1	20041125	US 199737139	P	19970211	200478	E
			US 199822293	A	19980211		

			US 2001754733	A	20010104		
			US 2002253678	A	20020924		
			US 2004883086	A	20040701		
US 20040236335	A1	20041125	US 199737139	P	19970211	200478	E
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			US 2000669912	A	20000926		
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			US 2004883087	A	20040701		
US 20050038436	A1	20050217	US 199737139	P	19970211	200514	E
			US 199822293	A	19980211		
			US 2001754733	A	20010104		
			US 2002253678	A	20020924		
			US 2004938376	A	20040911		
CA 2279936	C	20050614	CA 2279936	A	19980211	200541	E
			WO 1998US2212	A	19980211		
US 6916320	B2	20050712	US 199737139	P	19970211	200546	E
			US 199822293	A	19980211		
			US 2001754733	A	20010104		
			US 2002253678	A	20020924		
US 6926718	B1	20050809	US 199737139	P	19970211	200552	E
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			US 2003386275	A	20030311		
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US 20050187552	A1	20050825	US 199737139	P	19970211	200556	E
			US 199822293	A	19980211		
			US 2000618036	A	20000717		
			US 2003386275	A	20030311		
			US 2003409805	A	20030409		
			US 2005110161	A	20050420		
US 6936050	B2	20050830	US 199737139	P	19970211	200557	E
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			US 2003386275	A	20030311		
			US 2003409805	A	20030409		
US 6936051	B2	20050830	US 199737139	P	19970211	200557	E
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			US 2000618036	A	20000717		
			US 2003386275	A	20030311		
			US 2003410902	A	20030410		
US 6969390	B2	20051129	US 199737139	P	19970211	200578	E
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			US 2000618036	A	20000717		
			US 2003386275	A	20030311		
EP 1006913	B1	20051116	EP 1998904937	A	19980211	200579	E
			WO 1998US2212	A	19980211		
			EP 200328649	A	20031215		
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			EP 200328960	A	20031217		
			EP 200328961	A	20031217		
DE 69832389	E	20051222	DE 69832389	A	19980211	200603	E
			EP 1998904937	A	19980211		
			WO 1998US2212	A	19980211		
EP 1006913	B8	20060118	EP 1998904937	A	19980211	200606	E

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			EP 200328651	A	20031215		
			EP 200328960	A	20031217		
			EP 200328961	A	20031217		
CA 2445299	C	20060124	CA 2279936	A	19980211	200612	E
			CA 2445299	A	19980211		
JP 2006075618	A	20060323	JP 1998534884	A	19980211	200622	E
			JP 2005338923	A	20051124		
CA 2533689	A1	19980813	CA 2444222	A	19980211	200624	E
			CA 2533689	A	19980211		
CA 2533695	A1	19980813	CA 2444222	A	19980211	200624	E
			CA 2533695	A	19980211		
CA 2533699	A1	19980813	CA 2444222	A	19980211	200624	E
			CA 2533699	A	19980211		
CA 2533713	A1	19980813	CA 2444222	A	19980211	200624	E
			CA 2533713	A	19980211		
CA 2444232	C	20060411	CA 2279936	A	19980211	200626	E
			CA 2444232	A	19980211		
CA 2444222	C	20060509	CA 2279936	A	19980211	200634	E
			CA 2444222	A	19980211		

JP 2006116349	A	20060511	JP 1998534884	A	19980211	200634	E
			JP 200617528	A	20060126		
ES 2253809	T3	20060601	EP 1998904937	A	19980211	200638	E
CA 2444226	C	20060606	CA 2279936	A	19980211	200641	E
			CA 2444226	A	19980211		
US 7074221	B2	20060711	US 199737139	P	19970211	200646	E
			US 199822293	A	19980211		
			US 2001754733	A	20010104		
			US 2002253674	A	20020924		
DE 69832389	T2	20060803	DE 69832389	A	19980211	200651	E
			EP 1998904937	A	19980211		
			WO 1998US2212	A	19980211		
EP 1402836	B1	20060712	EP 1998904937	A	19980813	200652	E
			EP 200328964	A	19980211		
EP 1690508	A2	20060816	EP 1998904937	A	19980813	200654	E
			EP 200328962	A	20031217		
			EP 2006113160	A	19980211		
DE 69835244	E	20060824	DE 69835244	A	19980211	200657	E
			EP 200328964	A	19980211		

Priority Applications (no., kind, date): US 2005110161 A 20050420; US 2004938376 A 20040911; US 2004883087 A 20040701; US 2004883086 A 20040701; US 2004802906 A 20040317; US 2003664776 A 20030917; US 2003410918 A 20030410; US 2003410902 A 20030410; US 2003409805 A 20030409; US 2003386275 A 20030311; US 2002253678 A 20020924; US 2002253674 A 20020924; US 200298991 A 20020315; US 2001754733 A 20010104; US 2000669912 A 20000926; US 2000618566 A 20000717; US 2000618157 A 20000717; US 2000618048 A 20000717; US 2000618039 A 20000717; US 2000618038 A 20000717; US 2000618036 A 20000717; US 2000618035 A 20000717; US 199822344 A 19980211; US 199737139 P 19970211; US 199822293 A 19980211

#### Patent Details

Patent Number	Kind	Lan	Pgs	Draw	Filing Notes	
WO 1998034553	A1	EN	142			
National Designated States, Original	AL AM AT AU AZ BA BB BG BR BY CA CH CN CU CZ DE DK EE ES FI GB GE GH GM GW HU ID IL IS JP KE KG KP KR KZ LC LK LR LS LT LU LV MD MG MK MN MW MX NO NZ PL PT RO RU SD SE SG SI SK SL TJ TM TR TT UA UG US UZ VN YU ZW					
Regional Designated States, Original	AT BE CH DE DK EA ES FI FR GB GH GM GR IE IT KE LS LU MC MW NL OA PT SD SE SZ UG ZW					
AU 199862687	A	EN			Based on OPI patent	WO 1998034553
EP 1006913	A1	EN			PCT Application	WO 1998US2212
					Based on OPI patent	WO 1998034553
Regional Designated	AT BE CH DE DK ES FI FR GB GR IE IT LI LU MC NL PT SE					

States,Original						
US 6193721	B1	EN		Related to Provisional	US 199737139	
US 20020045896	A1	EN		Related to Provisional	US 199737139	
				Continuation of application	US 199822293	
US 6383186	B1	EN		Related to Provisional	US 199737139	
				Division of application	US 199822293	
				Division of patent	US 6193721	
JP 2002515799	W	JA	137	PCT Application	WO 1998US2212	
				Based on OPI patent	WO 1998034553	
US 6398783	B1	EN		Related to Provisional	US 199737139	
				Continuation of application	US 199822293	
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US 6416528	B1	EN		Related to Provisional	US 199737139	
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				Division of patent	US 6193721	
US 6454771	B1	EN		Related to Provisional	US 199737139	
				Continuation of application	US 199822293	
				Continuation of patent	US 6193721	
US 20030018335	A1	EN		Related to Provisional	US 199737139	
				Continuation of application	US 199822293	
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				Continuation of patent	US 6193721	
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US 6527776	B1	EN		Related to Provisional	US 199737139	

				Division of application	US 199822293
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US 6592586	B1	EN		Related to Provisional	US 199737139
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US 6616666	B1	EN		Related to Provisional	US 199737139
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US 6620163	B1	EN		Related to Provisional	US 199737139
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US 20030181912	A1	EN		Division of application	US 199822293
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US 20030191471	A1	EN		Division of application	US 199822293
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US 20030191472	A1	EN		Division of application	US 199822293
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CA 2444226	A1	EN		Division of application	CA 2279936
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CA 2445299	A1	EN		Division of application	CA 2279936
CA 2445303	A1	EN		Division of application	CA 2279936
CA 2445319	A1	EN		Division of application	CA 2279936
EP 1393687	A2	EN		Division of application	EP 1998904937
				Division of patent	EP 1006913
Regional Designated States, Original	AL AT BE CH DE DK ES FI FR GB GR IE IT LI LT LU LV MC MK NL PT SE				
EP 1393688	A2	EN		Division of application	EP 1998904937
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US 6712818	B1	EN		Related to Provisional	US 199737139
				Division of application	US 199822293
				Division of patent	US 6193721

EP 1402832	A2	EN		Division of application	EP 1998904937
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EP 1402835	A2	EN		Division of application	EP 1998904937
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US 20040122426	A1	EN		Related to Provisional	US 199737139
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				Division of patent	US 6454771
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US 20040220572	A1	EN		Division of application	US 199822344
				Division of application	US 2000669912
				Continuation of application	US 200298991
				Division of patent	US 6139550
				Division of patent	US 6383186
				Related to Provisional	US 199737139
				Continuation of application	US 199822293
US 20040236334	A1	EN		Division of application	US 2001754733
				Continuation of application	US 2002253678
				Continuation of patent	US 6193721
				Division of patent	US 6454771
				Related to Provisional	US 199737139
				Division of application	US 199822344
				Division of application	US 2000669912
US 20040236335	A1	EN		Continuation of application	US 200298991
				Continuation of application	US 2004802906

US 20050038436	A1	EN		Division of patent	US 6139550
				Division of patent	US 6383186
				Related to Provisional	US 199737139
				Continuation of application	US 199822293
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				Continuation of application	US 2002253678
				Continuation of patent	US 6193721
CA 2279936	C	EN		PCT Application	WO 1998US2212
				Based on OPI patent	WO 1998034553
US 6916320	B2	EN		Related to Provisional	US 199737139

				Continuation of application	US 199822293
				Division of application	US 2001754733
				Continuation of patent	US 6193721
				Division of patent	US 6454771
US 6926718	B1	EN		Related to Provisional	US 199737139
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				Division of patent	US 6620163
US 20050187552	A1	EN		Related to Provisional	US 199737139
				Division of application	US 199822293
				Division of application	US 2000618036
				Division of application	US 2003386275
				Continuation of application	US 2003409805
				Division of patent	US 6193721
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US 6936050	B2	EN		Related to Provisional	US 199737139
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US 6936051	B2	EN		Related to Provisional	US 199737139
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US 6969390	B2	EN		Related to Provisional	US 199737139
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				Division of patent	US 6620163
EP 1006913	B1	EN		PCT Application	WO 1998US2212
				Related to application	EP 200328649

				Related to application	EP 200328650
				Related to application	EP 200328651
				Related to application	EP 200328960
				Related to application	EP 200328961
				Related to patent	EP 1393687
				Related to patent	EP 1393688
				Related to patent	EP 1393689
				Related to patent	EP 1402832

				Related to patent	EP 1402833
				Based on OPI patent	WO 1998034553
Regional Designated States, Original	AT BE CH DE DK ES FI FR GB GR IE IT LI LU MC NL PT SE				
DE 69832389	E	DE		Application	EP 1998904937
				PCT Application	WO 1998US2212
				Based on OPI patent	EP 1006913
				Based on OPI patent	WO 1998034553
EP 1006913	B8	EN		PCT Application	WO 1998US2212
				Related to application	EP 200328649
				Related to application	EP 200328650
				Related to application	EP 200328651
				Related to application	EP 200328960
				Related to application	EP 200328961
				Related to patent	EP 1393687
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				Related to patent	EP 1402832
				Related to patent	EP 1402833
				Based on OPI patent	WO 1998034553
Regional Designated States, Original	AT BE CH DE DK ES FI FR GB GR IE IT LI LU MC NL PT SE				
CA 2445299	C	EN		Division of application	CA 2279936
JP 2006075618	A	JA	44	Division of application	JP 1998534884
CA 2533689	A1	EN		Division of application	CA 2444222
CA 2533695	A1	EN		Division of application	CA 2444222
CA 2533699	A1	EN		Division of application	CA 2444222
CA 2533713	A1	EN		Division of application	CA 2444222
CA 2444232	C	EN		Division of application	CA 2279936
CA 2444222	C	EN		Division of application	CA 2279936
JP 2006116349	A	JA	43	Division of application	JP 1998534884
ES 2253809	T3	ES		Application	EP 1998904937
				Based on OPI patent	EP 1006913
CA 2444226	C	EN		Division of application	CA 2279936
US 7074221	B2	EN		Related to Provisional	US 199737139
				Continuation of application	US 199822293
				Division of application	US 2001754733
				Continuation of patent	US 6193721

				Division of patent	US 6454771
DE 69832389	T2	DE		Application	EP 1998904937
				PCT Application	WO 1998US2212
				Based on OPI patent	EP 1006913

				Based on OPI patent	WO 1998034553
EP 1402836	B1	EN		Division of application	EP 1998904937
				Division of patent	EP 1006913
Regional Designated States, Original	AT BE CH DE DK ES FI FR GB GR IE IT LI LU MC NL PT SE				
EP 1690508	A2	EN		Division of application	EP 1998904937
				Division of application	EP 200328962
				Division of patent	EP 1006913
				Division of patent	EP 1402834
Regional Designated States, Original	AT BE CH DE DK ES FI FR GB GR IE IT LI LU MC NL PT SE				
DE 69835244	E	DE		Application	EP 200328964
				Based on OPI patent	EP 1402836

**to span adjacent cervical vertebrae with pair of bone screw receiving holes extending through the plate, and bone screw receiving holes associated ...**

**Original Titles:**

**Bone plate having a portion adapted to overlie a fastener**

**Alerting Abstract** ...least two adjacent cervical vertebrae, and an upper surface opposite to the lower surface. The plate has a first pair of **bone** screw (30) receiving holes (12) associated with a first of the adjacent cervical vertebrae, and...

## **Original Publication Data by Authority**

### **Original Abstracts:**

This invention is anatomically contoured anterior cervical plates (2) with **bone** ingrowth surfaces, providing for intersegmental compressive pre-loading, and a rigid and locked interface to.... ... This invention is anatomically contoured anterior cervical plates (2) with **bone** ingrowth surfaces, providing for intersegmental compressive pre-loading, and a rigid and locked interface to.... ... This invention is anatomically contoured anterior cervical plates (2) with **bone** ingrowth surfaces, providing for intersegmental compressive pre-loading, and a rigid and locked interface to.... ... This invention is anatomically contoured anterior cervical plates (2) with **bone** ingrowth surfaces, providing for intersegmental compressive pre-loading, and a rigid and locked interface to.... ... This invention is anatomically contoured anterior cervical plates (2) with **bone** ingrowth surfaces, providing for intersegmental compressive pre-loading, and a rigid and locked interface to.... ... holes to a final position that is adapted to retain at least two of said **bone** screws to said plates.

... ... This invention is anatomically contoured anterior cervical plates (2) with **bone** ingrowth surfaces, providing for intersegmental compressive pre-loading, and a rigid and locked interface to.... ... Said plate system comprising:

a plurality of locking elements each adapted to lock to said **plate** only one each of said **bone** screws inserted into one bone screw receiving holes, said locking elements each adapted to coaxially... ... This invention is anatomically contoured anterior cervical **plates** (2) with **bone** ingrowth surfaces, providing for intersegmental compressive pre-loading, and a rigid and locked interface to... ... This invention is anatomically contoured anterior cervical **plates** (2) with **bone** ingrowth surfaces, providing for intersegmental compressive pre-loading, and a rigid and locked interface to... ... pairs.

Said plates comprising:

**plate.** Methods for spinal compression and **bone** hole preparation are provided. . . . . Anatomically contoured anterior cervical plates with **bone** ingrowth surfaces, providing for intersegmental compressive preloading, and a rigid and locked interface to all. . . . . plate holders, a compression apparatus and a pilot hole forming device that interlocks with the **plate**. Methods for spinal compression and **bone** hole preparation are provided. . . . . Anatomically contoured anterior cervical plates with **bone** ingrowth surfaces, providing for intersegmental compressive preloading, and a rigid and locked interface to all. . . . . plate holders, a compression apparatus and a pilot hole forming device that interlocks with the **plate**. Methods for spinal compression and **bone** hole preparation are provided. . . . . Anatomically contoured anterior cervical plates with **bone** ingrowth surfaces, providing for intersegmental compressive preloading, and a rigid and locked interface to all. . . . . plate holders, a compression apparatus and a pilot hole forming device that interlocks with the **plate**. Methods for spinal compression and **bone** hole preparation are provided. . . . . Anatomically contoured anterior cervical plates with **bone** ingrowth surfaces, providing for intersegmental compressive preloading, and a rigid and locked interface to all. . . . . plate holders, a compression apparatus and a pilot hole forming device that interlocks with the **plate**. Methods for spinal compression and **bone** hole preparation are provided. . . . . Anatomically contoured anterior cervical plates with **bone** ingrowth surfaces, providing for intersegmental compressive preloading, and a rigid and locked interface to all. . . . . plate holders, a compression apparatus and a pilot hole forming device that interlocks with the **plate**. Methods for spinal compression and **bone** hole preparation are provided. . . . . Anatomically contoured anterior cervical plates with **bone** ingrowth surfaces, providing for intersegmental compressive preloading, and a rigid and locked interface to all. . . . . plate holders, a compression apparatus and a pilot hole forming device that interlocks with the **plate**. Methods for spinal compression and **bone** hole preparation are provided. . . . . Anatomically contoured anterior cervical plates with **bone** ingrowth surfaces, providing for intersegmental compressive preloading, and a rigid and locked interface to all. . . . . plate holders, a compression apparatus and a pilot hole forming device that interlocks with the **plate**. Methods for spinal compression and **bone** hole preparation are provided. . . . . Anatomically contoured anterior cervical plates with **bone** ingrowth surfaces, providing for intersegmental compressive preloading, and a rigid and locked interface to all. . . . . plate holders, a compression apparatus and a pilot hole forming device that interlocks with the **plate**. Methods for spinal compression and **bone** hole preparation are provided. . . . . This invention is anatomically contoured anterior cervical plates (2) with **bone** ingrowth surfaces, providing for intersegmental compressive pre-loading, and a rigid .

and locked interface to

...  
**Claims:**

said lower surface being concave along a substantial portion of the longitudinal axis of said **plate**; b) at least two **bone** screws each having a central longitudinal axis and being adapted to engage each of the... screw receiving holes having a central longitudinal axis and being adapted to receive one of said **bone** screws to attach said **plate** to the cervical spine; and d) at least one locking element, each of said at least one locking element adapted to lock to said **plate** only one of said **bone** screws inserted in one of said bone screw receiving holes, each of said at least... of a respective one of said bone screws so as to retain one of said **bone** screws to said **plate**.

... the cervical vertebral body to attach said **plate** to the cervical spine; and b) a **bone** screw adapted to attach said **plate** to the cervical vertebral body, said bone screw comprising: b1) a head adapted to block further forward motion of said screw through said **bone** screw receiving hole of said **plate**; b2) a tip for insertion into the cervical vertebral body; b3) a shaft between said... said lower surface, each of said bone screw receiving holes being adapted to receive a **bone** screw for engaging said **plate** to the spine; and c) a locking element being in slidable relationship to said **plate** for locking at least three **bone** screws inserted in said at least three bone screw receiving holes, respectively... said lower surface being concave along a substantial portion of the longitudinal axis of said **plate**; b) at least two **bone** screws each having a central longitudinal axis and being adapted to engage each of the... receiving holes having a central longitudinal axis and being adapted to receive one of said **bone** screws to attach said **plate** to the vertebral bodies; and d) a plurality of locking elements each adapted to lock to said **plate** only one each of said **bone** screws inserted into one each of said bone screw receiving holes, said locking elements each adapted... one each of said bone screws so as to retain said respective one of said **bone** screws to said **plate**, said locking elements each having an outer perimeter contacting at least a portion of the... contacting the cervical vertebral bodies and an upper surface opposite to said lower surface, said **plate** having a plurality of **bone** screw receiving holes extending through said **plate** from said upper surface to said lower surface... receiving holes having a central longitudinal axis and being adapted to receive one of said **bone** screws to attach said **plate** to the cervical spine; and d) a plurality of locking elements each adapted to lock to said **plate** only one each of said **bone** screws inserted in one each of said bone screw receiving holes, said locking elements each... of only one of said bone screws so as to retain said one of said **bone** screws to said **plate**, said locking element contacting said contact surface without penetrating said bone screw... said lower surface being concave along a substantial portion of the longitudinal axis of said **plate**; b) at least two **bone** screw receiving holes extending through said **plate** from said upper surface through said lower surface... vertebral bodies, each of said bone screw receiving holes being adapted to receive a single **bone** screw to attach said **plate** to the cervical spine; and c) at least one locking element, each of said at least one locking element adapted to lock to said **plate** only a single **bone** screw inserted in one of said at least two bone screw receiving holes, said locking... said lower surface being concave along a substantial portion of the longitudinal axis of said **plate**; at least two **bone** screws (170) each having a central longitudinal axis and being adapted to engage each of... contacting the cervical vertebral bodies and an upper surface opposite to said lower surface, said **plate** having a plurality of **bone** screw receiving holes (6, 8, 408, 980) extending through said **plate** from said upper surface... for contacting the cervical vertebrae and an upper surface opposite to said lower surface, said **plate** having a plurality of **bone** screw receiving holes extending through said **plate** from said upper surface to said lower surface... for contacting the cervical vertebrae and an upper surface opposite to said lower surface, said **plate** having a plurality of **bone** screw receiving holes extending through said **plate** from said upper surface to said lower surface... for contacting the cervical vertebrae and an upper surface opposite to said lower surface, said **plate** having a plurality of **bone** screw receiving holes extending through said **plate** from said upper surface to said lower surface... engaging the cervical vertebral body to attach said **plate** to the cervical spine; and a **bone** screw adapted to attach said **plate** to the cervical vertebral body, said bone screw comprising: a leading end for insertion into... longitudinal axis; a head adapted to block further forward motion of said screw through said **bone** screw receiving hole of said **plate**, said head having an upper portion and a lower portion, each of said upper and... said lower surface being concave along a substantial portion of the longitudinal axis of said **plate**; at least two **bone** screw

receiving holes extending through said plate from said upper surface through said lower surface.... ... bone screw receiving holes having a central longitudinal axis and being adapted to receive a **bone** screw to attach said **plate** to the cervical spine; anda lock for preventing the inadvertent backing out of the screws from within said bone screw receiving holes, said lock having a **threaded** shaft member with a longitudinal axis and a cover portion adapted to cover at least.... ... said lower surface being concave along a substantial portion of the longitudinal axis of said **plate**;at least two **bone** screw receiving holes extending through said plate from said upper surface through said lower surface.... ... lock being adapted to engage said plate and being adapted to retain at least two **bone** screws to said **plate** when said length of said elongated segment is generally transverse to the longitudinal axis of.... ... What is claimed is:1. An orthopedic device comprising:a **bone plate** having at least one opening therethrough and formed of a polymeric material;a fastener comprising a first end defining a head having a surface configured to engage a drive **tool** and an opposite, second end defining a tissue engaging portion, said fastener disposed within the at least one opening wherein a portion of the **bone plate** overlays a portion of said surface and the tissue engaging portion projects therefrom.... ... is:1. A plating apparatus for the spine, comprising:a plate having a generally triangular shape with an upper node positionable along an upper vertebra and a pair of lower nodes.... ... said lower surface being concave along a substantial portion of the longitudinal axis of said **plate**;at least two **bone** screw receiving holes extending through said plate from said upper surface through said lower surface.... ... bone screw receiving holes having a central longitudinal axis and being adapted to receive a **bone** screw to attach said **plate** to the cervical spine; anda lock for preventing the inadvertent backing out of the screws from within said bone screw receiving holes, said lock having a **threaded** shaft member with a longitudinal axis and a cover portion adapted to cover only a.... ... contacting the cervical vertebral bodies and an upper surface opposite to said lower surface, said **plate** having a plurality of **bone** screw receiving holes extending through said plate from said upper surface to said lower surface.... ... a plate having a longitudinal axis and a length sufficient to span at least two

**bone** portions, said **plate** having an upper surface and a lower surface for placement against the bone portions, said... ... one of flat and convex along a substantial portion of the longitudinal axis of said **plate**;at least two **bone** screws each having a central longitudinal axis and being adapted to engage each of the.... ... receiving holes having a central longitudinal axis and being adapted to receive one of said **bone** screws to attach said **plate** to the **bone** portions, each of said bone screw receiving holes and said bone screws being configured to.... ... with only one of said bone screw receiving holes and adapted to lock to said **plate** only one of said **bone** screws inserted into one of said bone screw receiving holes, said at least one locking.... ... of said bone screw when inserted in said bone screw receiving hole to retain said **bone** screw to said **plate**.

.... ... said lower surface, each of said bone screw receiving holes being adapted to receive a **bone** screw for engaging said **plate** to the spine; anda locking element being in slidble relationship to said **plate** for locking at least three **bone** screws inserted in said at least three bone screw receiving holes, respectively.... ... and a lower end configured to cooperatively engage a bone screw receiving hole in a **bone plate**, said lower end having a reduced diameter portion, said reduced diameter portion being threaded, a.... ... rod into the vertebral body, said sharpened-end having sufficient length to pass through the **bone plate** and into the vertebral body to a predetermined depth less than the depth of the... receiving holes having a central longitudinal axis and being adapted to receive one of said **bone** screws to attach said **plate** to the cervical spine; anda plurality of locking elements each adapted to lock to said **plate** only one each of said **bone** screws inserted in one each of said bone screw receiving holes, said locking elements each.... ... of only one of said bone screws so as to retain said one of said **bone** screws to said **plate**, said locking element contacting said contact surface without penetrating said bone screw.... ... said lower surface, each of said bone screw receiving holes being adapted to receive a **bone** screw for engaging said **plate** to the cervical spine; andat least one end of said plate being configured to.... ... engaging the cervical vertebral body to attach said plate to the cervical spine; anda **bone** screw adapted to attach said **plate** to the cervical vertebral body, said bone screw comprising:a head adapted to block further forward motion of said screw through said **bone** screw receiving hole of

said **plate**; a tip for insertion into the cervical vertebral body; a shaft between said tip and... ... contact the two adjacent vertebral bodies across the disc space and having a plurality of **bone** screw receiving holes; positioning the **plate** against at least a portion of the anterior aspect of the vertebral bodies to align... ... and a radius, each of said bone screw receiving holes being adapted to receive a **bone** screw for engaging said **plate** to the cervical spine; and opposite first and second ends along the mid-longitudinal axis... ... upper surface through said lower surface on each side of the longitudinal axis of said **plate**, each of said **bone** screw receiving holes being adapted to receive a bone screw having a longitudinal axis so... ... inserted in said bone screw receiving holes, said lock being adapted to couple to said **plate** to retain at least two **bone** screws to said **plate**.

... ... bone screw receiving holes having a central longitudinal axis and being adapted to receive a **bone** screw to attach said **plate** to the cervical spine; and a lock for preventing the inadvertent backing out of the screws from within said bone screw receiving **holes**, said lock having a **threaded** shaft member with a longitudinal axis and a cover portion adapted to cover at least... ... said lower surface being concave along a substantial portion of the longitudinal axis of said **plate**; at least two **bone** screw receiving holes extending through said **plate** from said upper surface through said lower surface... ... lock being adapted to engage said **plate** and being adapted to retain at least two **bone** screws to said **plate** when said length of said elongated segment is generally transverse to the longitudinal axis of... ... engaging the cervical vertebral body to attach said **plate** to the cervical spine; and a **bone** screw adapted to attach said **plate** to the cervical vertebral body, said bone screw comprising: a leading end for insertion into... ... longitudinal axis; a head adapted to block further forward motion of said screw through said **bone** screw receiving hole of said **plate**, said head being configured not to substantially protrude beyond said bone screw receiving hole when... ... vertebral bodies, and an upper surface opposite said lower surface, said lower surface of said **plate** being configured to promote **bone** growth along and into said lower surface from vertebral body to vertebral body; and at

12/3,K/9 (Item 9 from file: 350)

Derwent WPIX

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0005786856 *Drawing available*

WPI Acc no: 1992-009012/199202

XRAM Acc no: C1992-003863

XRPX Acc No: N1992-006925

**Valve for engine oil filter with reliable sealing - has valve body cooperating with valve plate and spring supported on valve cover**

Patent Assignee: FILTERWERK MANN & HUMMEL GMBH (FILW)

Inventor: BAUER S; HABIGER H; MACK K; PAVLIN J

Patent Family ( 8 patents, 9 countries )

Patent Number	Kind	Date	Application Number	Kind	Date	Update	Type
EP 463289	A	19920102	EP 1991102307	A	19910219	199202	B
BR 199102572	A	19920121				199208	E
US 5193579	A	19930316	US 1991718418	A	19910624	199313	E
US 5271429	A	19931221	US 1991718418	A	19910624	199351	E
			US 1992945410	A	19921006		
EP 463289	B1	19950125	EP 1991102307	A	19910219	199508	E

DE 59104371	G	19950309	DE 59104371	A	19910219	199515	E
			EP 1991102307	A	19910219		
ES 2070353	T3	19950601	EP 1991102307	A	19910219	199528	E
MX 192464	B	19990623	MX 246	A	19910530	200058	E

Priority Applications (no., kind, date): DE 10459 A 19900711; DE 7022 A 19900623; DE 194 A 19910109

#### Patent Details

Patent Number	Kind	Lan	Pgs	Draw	Filing Notes	
EP 463289	A	EN				
Regional Designated States, Original	AT DE ES FR GB IT SE					
BR 199102572	A	PT				
US 5193579	A	EN	8	6		
US 5271429	A	EN	8	6	Division of application	US 1991718418
					Division of patent	US 5193579
EP 463289	B1	DE	11	6		
Regional Designated States, Original	AT DE ES FR GB IT SE					
DE 59104371	G	DE			Application	EP 1991102307
					Based on OPI patent	EP 463289
ES 2070353	T3	ES			Application	EP 1991102307
					Based on OPI patent	EP 463289

**Alerting Abstract** ...a peripheral flange (22) above which uniformly distributed peripheral recesses are provided; and the valve plate (11) has a blind **bone** (25) into which extends a cylindrical guide (24) provided at the top of the cover...

**Equivalent Alerting Abstract** ...The seat is a frustoconical surface which contacts a corresp. frustoconical surface of the body **opening**. There is a screw **thread** around the body for securing it in a fluid passageway and the plate has at... ...in the opening to guide the plate. The guide surfaces are pref. arranged in **star shape**, and there is a mounting **tool** receiving recess in the body opposite the crimped margin...

#### Original Publication Data by Authority

##### Claims:

surface which contacts a corresponding frustoconical surface of a central bore which defines said valve **opening** in said valve body; wherein a screw **thread** is arranged circumferentially around said cylindrical valve body for securing said valve body in a...

? t s12/2/all

12/2/1 (Item 1 from file: 350)

Derwent WPIX

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0015961159 *Drawing available*

WPI Acc no: 2006-492827/200650

Related WPI Acc No: 2006-446308

XRPX Acc No: N2006-397821

**Fracture fixation plate shaping kit for surgical devices, has handle of specific size and shape for engaging with tubular elements removably coupled in threaded holes in bone plate**

Patent Assignee: CASTANEDA J E (CAST-I); KORTENBACH J A (KORT-I); ORBAY J L (ORBA-I)

Inventor: CASTANEDA J E; KORTENBACH J A; ORBAY J L

Basic Patent ( 1 patents, 1 countries )

Patent Number	Kind	Date	Application Number	Kind	Date	Update	Type
US 20060161158	A1	20060720	US 200411917	A	20041214	200650	B
			US 2006384841	A	20060320		

Priority Applications (no., kind, date): US 200411917 A 20041214; US 2006384841 A 20060320

#### **Alerting Abstract US A1**

**NOVELTY** - A **shaping tool** has handle of specific size and **shape** for engaging with one of the tubular elements removably coupled in **threaded holes** (14) in a **bone plate** (10). Another **shaping tool** has handle and end sized and **shaped** to engage with other tubular elements.

**DESCRIPTION** - INDEPENDENT CLAIMS are also included for the following:

1. **shaping tool**; and
2. **plate shaping** method.

**USE** - For surgical devices for implanting and **shaping bone plates**.

**ADVANTAGE** - The drilling of **holes** in the bone in alignment with **threaded holes** in the **bone plate** is performed effectively.

**DESCRIPTION OF DRAWINGS** - The figure shows the perspective view of the drill guide.

10 **bone plate**

12 **holes**

14 **alignment holes**

16 **drill guide tip**

18 insertion tool

22 circular opening

**Title Terms /Index Terms/Additional Words:** FRACTURE; FIX; PLATE; SHAPE; KIT; SURGICAL; DEVICE; HANDLE; SPECIFIC; SIZE; ENGAGE; TUBE; ELEMENT; REMOVE; COUPLE; THREAD; HOLE; BONE

### Class Codes

International Patent Classification

IPC	Class Level	Scope	Position	Status	Version Date	
A61F-0002/30	A	I	F	B	20060101	

US Classification, Issued: 606069000

File Segment: EngPI; ;

DWPI Class: P32

12/2/2 (Item 2 from file: 350)

Derwent WPIX

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0014214010 *Drawing available*

WPI Acc no: 2004-399752/200437

Related WPI Acc No: 2004-399753; 2004-399754; 2004-399755; 2004-399761; 2005-295310

XRPX Acc No: N2004-318686

**Bone fixation used for support, movement, protection, storage of minerals in blood cells of human involves securing bone plate to second portion of bone while adjusting angular disposition of bone plate relative to two bone portions**

Patent Assignee: ACUMED LLC (ACUM-N); HUEBNER R J (HUEB-I)

Inventor: HORST S P; HUEBNER R J

Basic Patent ( 16 patents, 107 countries )

Patent Number	Kind	Date	Application Number	Kind	Date	Update	Type
US 20040102775	A1	20040527	US 2002427908	P	20021119	200437	B
			US 2002427910	P	20021119		
			US 2003512111	P	20031017		
			US 2003512136	P	20031017		
			US 2003512322	P	20031017		
			US 2003512323	P	20031017		
			US 2003717015	A	20031119		

Priority Applications (no., kind, date): US 2003512323 P 20031017; US 2003512322 P 20031017; US 2003512136

P 20031017; US 2003512111 P 20031017; US 2002427910 P 20021119; US 2002427908 P 20021119; US 2003717015 A 20031119

National Designated States: AE AG AL AM AT AU AZ BA BB BG BR BW BY BZ CA  
CH CN CO CR CU CZ DE DK DM DZ EC EE EG ES FI GB GD GE GH GM HR HU ID IL IN IS JP  
KE KG KP KR KZ LC LK LR LS LT LU LV MA MD MG MK MN MW MX MZ NI NO NZ OM PG PH PL  
PT RO RU SC SD SE SG SK SL SY TJ TM TN TR TT TZ UA UG US UZ VC VN YU ZA ZM ZW NA  
Regional Designated States: AT BE BG BW CH CY CZ DE DK EA EE ES FI FR GB  
GH GM GR HU IE IT KE LS LU MC MW MZ NL OA PT RO SD SE SI SK SL SZ TR TZ UG ZM ZW  
NA PL AL LI LT LV MK

### **Alerting Abstract US A1**

**NOVELTY** - The method involves securing a **bone plate** (50) to a second portion of a bone while adjusting the angular disposition of **bone plate** relative to the two portions of the bone.

**DESCRIPTION** - An INDEPENDENT CLAIM is also included for a **bone plate** for **bone** fixation.

**USE** - Used for support, movement, protection, storage of minerals and formation of blood cells of human.

**ADVANTAGE** - Ensure that the skeleton retains its functions, while reducing pain and disfigurement.

**DESCRIPTION OF DRAWINGS** - The figure is a volar view of the distal radius and the **bone plate**.

#### **50. Bone plate**

54 Distal anchor portion

74,76 Openings

82 Bone screw

**Title Terms /Index Terms/Additional Words:** BONE; FIX; SUPPORT; MOVEMENT; PROTECT; STORAGE; MINERAL; BLOOD; CELL; HUMAN; SECURE; PLATE; SECOND; PORTION; ADJUST; ANGULAR; DISPOSITION; RELATIVE; TWO

### **Class Codes**

International Patent Classification

<b>IPC</b>	<b>Class Level</b>	<b>Scope</b>	<b>Position</b>	<b>Status</b>	<b>Version Date</b>
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A61B-017/56; A61B-017/58			Main		"Version 7"
A61B-0017/17	A	I		R	20060101
A61B-0017/58	A	I	F	B	20060101
A61B-0017/80	A	I		R	20060101
A61B-0019/00	A	N		R	20060101
A61F-0002/28	A	I	L	B	20060101
A61B-0017/16	C	I		R	20060101
A61B-0017/68	C	I		R	20060101
A61B-0019/00	C	N		R	20060101

US Classification, Issued: 606069000

File Segment: EngPI; ;

DWPI Class: P31; P32

12/2/3 (Item 3 from file: 350)

Derwent WPIX

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0013392209 *Drawing available*

WPI Acc no: 2003-482186/200345

XRAM Acc no: C2003-128914

XRPX Acc No: N2003-383474

**Plate for osteosynthesis has elongate shape body provided with holes for passage of corresponding screws for fixing to bone, and reduced section defining intermediate point of greater flexibility**

Patent Assignee: BIOTEK SRL (BIOT-N); DEL MEDICO N (DMED-I); VESE S (VESE-I)

Inventor: DEL MEDICO N

Basic Patent ( 6 patents, 99 countries )

Patent Number	Kind	Date	Application Number	Kind	Date	Update	Type
WO 2003039384	A1	20030515	WO 2002IB3742	A	20020911	200345	B

Priority Applications (no., kind, date): IT 2001TO1059 A 20011109

National Designated States: AE AG AL AM AT AU AZ BA BB BG BR BY BZ CA CH

CN CO CR CU CZ DE DK DM DZ EC EE ES FI GB GD GE GH GM HR HU ID IL IN IS JP KE KG  
KP KR KZ LC LK LR LS LT LU LV MA MD MG MK MN MW MX MZ NO NZ OM PH PL PT RO RU SD  
SE SG SI SK SL TJ TM TN TR TT TZ UA UG US UZ VN YU ZA ZM ZW

Regional Designated States: AT BE BG CH CY CZ DE DK EA EE ES FI FR GB GH

GM GR IE IT KE LS LU MC MW MZ NL OA PT SD SE SK SL SZ TR TZ UG ZM ZW AL LI LT LV  
MK RO SI

### **Alerting Abstract WO A1**

**NOVELTY** - An osteosynthesis plate has an elongate **shape** body (2) provided with holes for the passage of corresponding screws (6) for fixing to a bone (4), and has a reduced section having a cross-sectional area smaller than that of the body to define an intermediate point (10) of greater flexibility. The reduced section is provided with a mechanism (12) to constrain the mobile portion to the elongate body.

**DESCRIPTION** - An osteosynthesis plate has an elongate **shape** body provided with holes for the passage of corresponding screws for fixing to a bone. It has a reduced section having a cross-sectional area smaller than that of the body to define an intermediate point of greater flexibility.

The reduced section is coupled with a mobile portion of the complementary **shape** provided with a mechanism to constrain the mobile portion to the elongate body to decrease the flexibility of the intermediate point.

**USE** - Used as plate for osteosynthesis.

**ADVANTAGE** - The inventive plate can be manufactured in different **shapes** and sizes to suit different types of bones and fractures. The screw allows varying of flexibility of the plate.

**DESCRIPTION OF DRAWINGS** - The figure is a perspective view of plate for osteosynthesis applied to the fractured bone.

2 Body

4 Bone  
6 Screws  
10 Intermediate point  
12 Mechanism

**Title Terms /Index Terms/Additional Words:** PLATE; OSTEOSYNTHESIS; ELONGATE; **SHAPE**; BODY; HOLE; PASSAGE; CORRESPOND; SCREW; FIX; BONE; REDUCE; SECTION; DEFINE; INTERMEDIATE; POINT; GREATER; FLEXIBLE

### Class Codes

International Patent Classification

IPC	Class Level	Scope	Position	Status	Version Date
A61B-017/00; A61B-017/80; A61F-002/30			Main		"Version 7"
A61B-017/56			Secondary		"Version 7"

US Classification, Issued: 606069000

File Segment: CPI; EngPI

DWPI Class: A96; D22; P31; P32

Manual Codes (CPI/A-N): A04-E08; A12-V02; D09-C01

Specific Compound Numbers: R00975

Derwent Chemistry Resource Numbers: (Linked) 104333-DIS; 104333

Key Word Indexing

\*1\* 104333-DIS

Polymer Indexing

(01)

\*001\* 018; G0022 D01 D12 D10 D51 D53 D59 D69 D82 F- 7A R00975-R 104333-R;

H0000; P0511

\*002\* 018; ND01; K9416; Q9999 Q8048 Q7987; K9483-R; K9676-R

12/2/4 (Item 4 from file: 350)

Derwent WPIX

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0010766599 *Drawing available*

WPI Acc no: 2001-380698/200140

XRPX Acc No: N2001-279113

**Self-drilling and tapping multi-drive bone screw for rigid fixation of craniomaxillofacial tissue grafts and bone plates includes tip which incorporates twist drill shaft with sharp cutting point tip**

Patent Assignee: BALFOUR A R (BALF-I); CARCHIDI J E (CARC-I)

Inventor: BALFOUR A R; CARCHIDI J E

Basic Patent ( 2 patents, 1 countries )

Patent Number	Kind	Date	Application Number	Kind	Date	Update	Type
US 20010004694	A1	20010621	US 199881605	P	19980414	200140	B
			US 1999290433	A	19990413		

Priority Applications (no., kind, date): US 199881605 P 19980414; US 1999290433 A 19990413

#### **Alerting Abstract US A1**

**NOVELTY** - The bone screw (10) has tip (12a) which incorporates a twist drill shaft with a sharp cutting point tip (12b) to pierce and drill pilot **hole** and prepare for the insertion of self-tapping screw **threads** (12c). The cylindrical dome **shaped** head (14) allow rigid fixation of craniomaxillofacial tissue grafts and geometrically sized **bone plates** is formed on the screw distal to the drilling and tapping features.

**DESCRIPTION** - A spline feature (14e) is incorporated into the cylindrically dome **shaped** head for easy pickup, assembly and insertion of the bone screw with a corresponding spline driver **tool** (20). The spline driver feature also allows the bone screw (10) to be driven with either a standard square or cross blade driver **tool**. An **INDEPENDENT CLAIM** includes a driving **tool**.

**USE** - Bone screw for rigid fixation of craniomaxillofacial tissue grafts and **bone plates**.

**ADVANTAGE** - The screw minimizes the surgical steps and maximizes fixation.

**DESCRIPTION OF DRAWINGS** - The figure shows front elevational view, partly in cross section, of a self-drilling and self-tapping bone screw.

10 Bone screw

12a Tip

12b Sharp cutting point tip

12c Self-tapping screw threads

14 Cylindrical dome **shaped** head

14e Spline feature

20 Spline driver **tool**

**Title Terms /Index Terms/Additional Words:** SELF; DRILL; TAP; MULTI; DRIVE; BONE; SCREW; RIGID; FIX; TISSUE; GRAFT; PLATE; TIP; INCORPORATE; TWIST; SHAFT; SHARP; CUT; POINT

#### **Class Codes**

International Patent Classification

IPC	Class Level	Scope	Position	Status	Version Date

A61B-017/56; A61B-017/58			Main		"Version 7"
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US Classification, Issued: 606073000, 606104000, 606073000, 411387000

File Segment: EngPI; ;

DWPI Class: P31

12/2/5 (Item 5 from file: 350)

Derwent WPIX

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0010587519 *Drawing available*

WPI Acc no: 2001-192605/200120

XRPX Acc No: N2001-136919

**Instruments for implanting tendon incorporate button with openings in for fixture filaments, outer aperture of bone-duct and plate shaped body**

Patent Assignee: SAUER M (SAUE-I); STORZ GMBH & CO KARL (STOR-N); STORZ GMBH & CO KG KARL (STOR-N); STROBEL M (STRO-I)

Inventor: SAUER M; STROBEL M

Basic Patent ( 7 patents, 25 countries )

Patent Number	Kind	Date	Application Number	Kind	Date	Update	Type
DE 19941574	A1	20010308	DE 19941574	A	19990901	200120	B

Priority Applications (no., kind, date): DE 19941574 A 19990901

National Designated States: US

Regional Designated States: AT BE CH CY DE DK ES FI FR GB GR IE IT LU MC

NL PT SE AL LI LT LV MK RO SI

#### Alerting Abstract DE A1

**NOVELTY** - A button (40) is placed on the outer aperture (33) of a bone-duct (32) containing the replacement tendon (16). The button has **openings** (58,60) through which are **threaded** the fixture filaments (36-39) of the replacement tendon. A center protuberance in the form of a cylindrical pin-shaped neck (50) fits into the aperture in a matching recess in the bone-duct when the button is placed on it. The button has a **plate-shaped body** (46) which has edges against which a **tool** can be placed for turning the button.

**USE** - Instruments for implanting replacement tendon, especially replacement crucial ligament

**ADVANTAGE** - The replacement tendon is easily and securely implanted.

**DESCRIPTION OF DRAWINGS** - The drawing shows a button placed against the **aperture** of a bone-duct, with four fixture filaments **threaded** through **openings**.

16 Tendon

32 Bone-duct

33 Outer aperture  
 36-39 Filaments  
 46 Body  
 50 Neck  
 58,60 Openings

**Title Terms /Index Terms/Additional Words:** INSTRUMENT; IMPLANT; TENDON; INCORPORATE; BUTTON; OPEN; FIX; FILAMENT; OUTER; APERTURE; BONE; DUCT; PLATE; SHAPE; BODY

### Class Codes

#### International Patent Classification

IPC	Class Level	Scope	Position	Status	Version Date
A61B-017/04; A61F-002/08			Main		"Version 7"
A61B-017/00; A61B-017/17			Secondary		"Version 7"

US Classification, Issued: 623013140, 606232000, 606072000, 606103000

File Segment: EngPI; ;  
 DWPI Class: P31; P32

12/2/6 (Item 6 from file: 350)

Derwent WPIX

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0010069809 *Drawing available*

WPI Acc no: 2000-375827/200032

XRPX Acc No: N2000-282289

**Inter-body fusion cage-plate fixation assembly for spinal surgery procedures comprises cage which is implanted between two vertebral bodies with attachment plate and fastener connecting plate**

Patent Assignee: SDGI HOLDINGS INC (SDGI-N)

Inventor: JOSSE L; LEHUEC J; LEHUEC J C; LIU M

Basic Patent ( 9 patents, 88 countries )

Patent Number	Kind	Date	Application Number	Kind	Date	Update	Type
WO 2000024343	A1	20000504	WO 1999US25164	A	19991027	200032	B

Priority Applications (no., kind, date): US 1998181362 A 19981028

National Designated States: AE AL AM AT AU AZ BA BB BG BR BY CA CH CN CR

CU CZ DE DK EE ES FI GB GD GE GH GM HR HU ID IL IN IS JP KE KG KP KR KZ LC LK LR LS LT LU LV MA MD MG MK MN MW MX NO NZ PL PT RO RU SD SE SG SI SK SL TJ TM TR TT TZ UA UG US UZ VN YU ZA ZW

Regional Designated States: AT BE CH CY DE DK EA ES FI FR GB GH GM GR IE  
IT KE LS LU MC MW NL OA PT SD SE SL SZ TZ UG ZW LI

### Alerting Abstract WO A1

**NOVELTY** - The inter-body fusion cage (12) has an externally threaded stem (19) projecting from a domed outer end (22). A contoured plate (11) is provided with an **aperture** that may be received on the stem. The stem **threads** receive a nut (21) to fix the **plate** to the cage. **Bone** screws anchor the **plate** to vertebral bodies (13,14). A hemispherical surface accommodates universal angulation of the plate relative to the cage.

**DESCRIPTION** - An INDEPENDENT CLAIMS is also included for a **tool** assembly.

**USE** - For use as anterior lateral spinal cage-plate fixation device.

**ADVANTAGE** - Provides stable construct, and enables endoscopic procedures to be utilized.

**DESCRIPTION OF DRAWINGS** - The drawing shows a cross-sectional view of the assembly.

11 Contoured plate

12 Fusion cage

13,14 Vertebral bodies

19 Threaded stem

21 Nut

22 Domed outer end

**Title Terms /Index Terms/Additional Words:** INTER; BODY; FUSE; CAGE; PLATE; FIX; ASSEMBLE; SPINE; SURGICAL; PROCEDURE; COMPRISE; IMPLANT; TWO; VERTEBRA; ATTACH; FASTEN; CONNECT

### Class Codes

#### International Patent Classification

IPC	Class Level	Scope	Position	Status	Version Date
A61B-017/56; A61F-002/44			Main		"Version 7"
A61B-017/58			Secondary		"Version 7"
A61B-0017/70	A	N		R	20060101
A61B-0017/86	A	N		R	20060101
A61F-0002/00	A	N		R	20060101
A61F-0002/02	A	N		R	20060101
A61F-0002/30	A	N		R	20060101
A61F-0002/44	A	I		R	20060101
A61F-0002/44	A	I	F	B	20060101
A61F-0002/46	A	I		R	20060101
A61B-0017/68	C	N		R	20060101
A61B-0017/70	C	N		R	20060101
A61F-0002/00	C	N		R	20060101
A61F-0002/02	C	N		R	20060101
A61F-0002/30	C	N		R	20060101
A61F-0002/44	C	I		R	20060101
A61F-0002/46	C	I		R	20060101

US Classification, Issued: 606061000, 606069000, 606072000

File Segment: EngPI; ;

DWPI Class: P31; P32

12/2/7 (Item 7 from file: 350)

Derwent WPIX

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0009561743 *Drawing available*

WPI Acc no: 1999-508059/

XRPX Acc No: N1999-378607

**Dental implant system requiring minimal bone structure to mount dental prosthesis**

Patent Assignee: LIU C (LIUC-I)

Inventor: LIU C

Basic Patent ( 1 patents, 1 countries )

Patent Number	Kind	Date	Application Number	Kind	Date	Update	Type
US 5944526	A	19990831	US 1996597613	A	19960206	199942	B

Priority Applications (no., kind, date): US 1996597613 A 19960206

#### **Alerting Abstract US A**

**NOVELTY** - A saddle-shaped support has a shallow depression (114) at top center portion and two side walls (113a,113b). An anchor (116) having a **threaded hole** extending from the upper surface is positioned in the depression of the support. A cover plate (124) retains the anchor in the support. A pair of wires (128) secures the support and the cover plate to the patient's jaw.

**DESCRIPTION** - A nut is mounted on the anchor upper surface aligning with the **threaded hole** and an **opening** on the cover plate. A heating abutment or a crown abutment is fixed detachedly to the anchor by tightening a screw to the nut. The screw lower end does not extend through the support. The two wires are passed through grooves extending lengthwise across the cover plate top and the ends are twisted. The depth of the depression is approximately 3 mm. The mating surfaces of the anchor and the support are spherical in **shape** for free orientation of the **threaded hole** axis. The support has a **hole** through which anchor extends. The cover plate extends from the sides of the anchor enclosing the support. The anchor is free of interlocking engagement with the patient jaw. An **INDEPENDENT CLAIM** is also included for installation method of dental implant system in patient jaw.

**USE** - To mount dental prosthesis.

**ADVANTAGE** - Requires minimal base structure for mounting as shallow drilling is made on bone for fixing anchor with wire eliminating long screw structure. Results in less trauma to jaw bone and reduces risk of damaging mandibular nerve as shallow drilling is required for seating support. Reduces cost of implanting as only conventional **tools** are used for fixing.

**DESCRIPTION OF DRAWINGS** - The figure shows sectional view of jaw bone with dental implant system.

113a,113b Side walls

114 Shallow depression  
116 Anchor  
124 Cover plate  
128 Wires

**Title Terms /Index Terms/Additional Words:** DENTAL; IMPLANT; SYSTEM; REQUIRE; MINIMUM; BONE; STRUCTURE; MOUNT; PROSTHESIS

**Class Codes**

International Patent Classification

IPC	Class Level	Scope	Position	Status	Version Date
A61C-008/00			Main		"Version 7"

US Classification, Issued: 433176000

File Segment: EngPI; ;

DWPI Class: P32

12/2/8 (Item 8 from file: 350)

Derwent WPIX

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0008897668 *Drawing available*

WPI Acc no: 1998-446887/199838

Related WPI Acc No: 1998-446890; 2002-664778

XRPX Acc No: N1998-348370

**Automatic anterior cervical plating system for fusing human spine - has length sufficient to span adjacent cervical vertebrae with pair of bone screw receiving holes extending through the plate, and bone screw receiving holes associated**

Patent Assignee: MICHAELSON G K (MICH-I); MICHELSON G K (MICH-I); SDGI HOLDINGS INC (SDGI-N); SULZER SPINE-TECH LTD (SULZ); ZIMMER SPINE INC (ZIMM-N)

Inventor: MICHELSON G K; MITCHELSON G K

Basic Patent ( 65 patents, 80 countries )

Patent Number	Kind	Date	Application Number	Kind	Date	Update	Type
WO 1998034553	A1	19980813	WO 1998US2212	A	19980211	199838	B

Priority Applications (no., kind, date): US 2005110161 A 20050420; US 2004938376 A 20040911; US 2004883087 A 20040701; US 2004883086 A 20040701; US 2004802906 A 20040317; US 2003664776 A 20030917; US 2003410918 A 20030410; US 2003410902 A 20030410; US 2003409805 A 20030409; US 2003386275 A 20030311; US 2002253678 A 20020924; US 2002253674 A 20020924; US 200298991 A 20020315; US 2001754733 A 20010104; US 2000669912 A 20000926; US 2000618566 A 20000717; US 2000618157 A

20000717; US 2000618048 A 20000717; US 2000618039 A 20000717; US 2000618038 A 20000717; US 2000618036 A 20000717; US 2000618035 A 20000717; US 199822344 A 19980211; US 199737139 P 19970211; US 199822293 A 19980211

National Designated States: AL AM AT AU AZ BA BB BG BR BY CA CH CN CU CZ DE DK EE ES FI GB GE GH GM GW HU ID IL IS JP KE KG KP KR KZ LC LK LR LS LT LU LV MD MG MK MN MW MX NO NZ PL PT RO RU SD SE SG SI SK SL TJ TM TR TT UA UG US UZ VN YU ZW

Regional Designated States: AT BE CH DE DK EA ES FI FR GB GH GM GR IE IT KE LS LU MC MW NL OA PT SD SE SZ UG ZW LI AL LT LV MK RO SI

### **Alerting Abstract WO A1**

The plate (2) has a length sufficient to span at least two adjacent cervical vertebrae, and an upper surface opposite to the lower surface. The plate has a first pair of bone screw (30) receiving holes (12) associated with a first of the adjacent cervical vertebrae, and at least a second pair of bone screw receiving holes associated with a second of the adjacent cervical vertebrae.

The plate has a length longer than its width. The lower surface of the plate has a first concave curvature parallel to the length. The first concave curvature having a radius of curvature between approximately 20 to 24 cm. The lower surface and the second concave curvature transverse to the length parallel to the width.

**ADVANTAGE** - The vertebrae can be easily and reliably locked in place at the same time by a single operation, and allows for intersegmental compression of the spinal segment.

**Title Terms /Index Terms/Additional Words:** AUTOMATIC; ANTERIOR; CERVIX; PLATE; SYSTEM; FUSE; HUMAN; SPINE; LENGTH; SUFFICIENT; SPAN; ADJACENT; VERTEBRA; PAIR; BONE; SCREW; RECEIVE; HOLE; EXTEND; THROUGH; ASSOCIATE

### **Class Codes**

#### **International Patent Classification**

<b>IPC</b>	<b>Class Level</b>	<b>Scope</b>	<b>Position</b>	<b>Status</b>	<b>Version Date</b>
A61B-017/58; A61B-017/70			Main		"Version 7"
A61B-0017/00	A	N		R	20060101
A61B-0017/16	A	I		R	20060101
A61B-0017/17	A	I		R	20060101
A61B-0017/58	A	I		R	20060101
A61B-0017/58	A	I	F	B	20060101
A61B-0017/58	A	I	L		20060101
A61B-0017/58	A	I	F		20060101
A61B-0017/70	A	I		R	20060101
A61B-0017/70	A	I	F		20060101
A61B-0017/70	A	I	L		20060101
A61B-0017/70	A	I	F	B	20060101
A61B-0017/80	A	I		R	20060101
A61B-0017/80	A	I	F		20060101
A61B-0017/80	A	I	L		20060101

A61B-0017/80	A	I	F	B	20060101
A61B-0017/86	A	I		R	20060101
A61B-0017/86	A	I	L		20060101
A61B-0017/86	A	I	L	B	20060101
A61B-0017/88	A	I		R	20060101
A61B-0017/88	A	I	L		20060101
A61F-0002/00	A	N		R	20060101
A61F-0002/44	A	I	L		20060101
A61L-0027/00	A	I	L	B	20060101
A61L-0027/54	A	I	L		20060101
A61L-0027/58	A	I	L		20060101
A61B-0017/00	C	N		R	20060101
A61B-0017/16	C	I		R	20060101
A61B-0017/58	C	I		R	20060101
A61B-0017/68	C	I		R	20060101
A61B-0017/68	C	I	F		20060101
A61B-0017/68	C	I	L		20060101
A61B-0017/68	C	I	F	B	20060101
A61B-0017/68	C	I	L	B	20060101
A61B-0017/70	C	I		R	20060101
A61B-0017/88	C	I		R	20060101
A61F-0002/00	C	N		R	20060101
A61L-0027/00	C	I	L		20060101

File Segment: EngPI; ;  
DWPI Class: P31; P32; P34

12/2/9 (Item 9 from file: 350)

Derwent WPIX

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0005786856 *Drawing available*

WPI Acc no: 1992-009012/199202

XRAM Acc no: C1992-003863

XRPX Acc No: N1992-006925

**Valve for engine oil filter with reliable sealing - has valve body cooperating with valve plate and spring supported on valve cover**

Patent Assignee: FILTERWERK MANN & HUMMEL GMBH (FILW)

Inventor: BAUER S; HABIGER H; MACK K; PAVLIN J

Basic Patent ( 8 patents, 9 countries )

Patent Number	Kind	Date	Application Number	Kind	Date	Update	Type
EP 463289	A	19920102	EP 1991102307	A	19910219	199202	B

Priority Applications (no., kind, date): DE 10459 A 19900711; DE 7022 A 19900623; DE 194 A 19910109

Regional Designated States: AT DE ES FR GB IT SE

#### **Alerting Abstract EP A**

A valve, esp. for an engine oil filter, has a valve body, which cooperates with a valve plate, and a valve spring which is supported on a valve cover for applying force to the valve plate to close the opening between the valve plate and the valve seat, the valve body having, at the valve seat side, a raised edge for receiving the edge of the valve cover. The valve body (10) is cylindrical; the valve cover (15) has a peripheral flange (22) above which uniformly distributed peripheral recesses are provided; and the valve plate (11) has a blind **bone** (25) into which extends a cylindrical guide (24) provided at the top of the cover (5), the valve plate (11) and the cover (15) pref. consisting of injection moulded plastics.

**ADVANTAGE** - The valves provide reliable sealing, contain fewer components than usual, are inexpensive to mfr. and are easily replaceable. @ (10pp Dwg. No. 1/6) @

**Title Terms /Index Terms/Additional Words:** VALVE; ENGINE; OIL; FILTER; RELIABILITY; SEAL; BODY; COOPERATE; PLATE; SPRING; SUPPORT; COVER

#### **Class Codes**

International Patent Classification

IPC	Class Level	Scope	Position	Status	Version Date
B01D-035/147; F16K-015/006; F16K-015/06			Main		"Version 7"
B01D-035/14; F16K-001/32; F16K-015/02; F16K-017/04			Secondary		"Version 7"

US Classification, Issued: 137540000, 137543190, 137543230

File Segment: CPI; EngPI

DWPI Class: J01; Q66

Manual Codes (CPI/A-N): J01-F02B

? d s

Set	Items	Description
S1	74407	S BONE? ?
S2	2306703	S FIX??? OR FIXAT????
S3	2105063	S PLATE? ?
S4	2444	S S1(5N)S3
S5	2473027	S DEFORM??? OR DEFORMA???? OR SHAPE?? OR SHAPING??
S6	845	S S4 AND S5
S7	2849135	S HOLE? ? OR OPENING? ? OR APERTURE? ?
S8	303793	S THREAD?? OR THREADING??
S9	52270	S S7(10N)S8
S10	76	S S6 AND S9
S11	662765	S TOOL? ?
S12	9	S S10 AND S11

? b 2,5,6,8,34,35,65,73,94,144,434,155,441

#### Estimated Cost Summary

Project		Client		Charge Code		Searcher		Job		Service Code	User Number
						John Sims				51	259276
Date		Time		SessionID		Subsession		Subaccount			
11/06/2006		15:08:19		53		3					
Data Base	Dial Units	Access Charge	Print Credit	Types	Prints	Report	Rank	Links	CSS	Total	
344	0.0750	0.78	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.78	
347	1.6390	17.95	0.00	0.00	0.00	0.00	0.00	0.00	0.00	17.95	
350	6.0850	93.78	0.00	33.84	0.00	0.00	0.00	0.00	0.00	127.62	
371	0.1610	0.81	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.81	
Sub Totals	7.9600	\$113.32	\$0.00	\$33.84	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$147.16	
Session	8.2680	\$113.50		Telecom	\$3.06					\$150.40	

Totals									
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[File 434] **SciSearch(R) Cited Ref Sci** 1974-1989/Dec

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[File 441] **ESPICOM Pharm&Med DEVICE NEWS** 2006/May W2

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? s bone? ?(10n)plate? ?

2174533 BONE? ?

1091433 PLATE? ?

S1 27633 S BONE? ?(10N)PLATE? ?

? s deform??? or deforma???? or shape?? or shaping? or contour?

Processing

255551 DEFORM???

891695 DEFORMA????

1740622 SHAPE??

91443 SHAPING?

199410 CONTOUR?

S2 2928202 S DEFORM??? OR DEFORMA???? OR SHAPE?? OR SHAPING? OR CONTOUR?

? s s1 and s2

27633 S1

2928202 S2

S3 2959 S S1 AND S2

? s thread?? or threading???

67840 THREAD??

18157 THREADING???

S4 82531 S THREAD?? OR THREADING???

? s s3 and s4

2959 S3

82531 S4

S5 60 S S3 AND S4

? s hole? ? or aperture? ? or opening? ?

567786 HOLE? ?

206774 APERTURE? ?

357962 OPENING? ?

S6 1112839 S HOLE? ? OR APERTURE? ? OR OPENING? ?

? s tool? ?

S7 1764248 S TOOL? ?

? s screw? ?

s8 126814 S SCREW? ?

? s s5 and s6

60 S5

1112839 S6

s9 40 S S5 AND S6

? s s9 and (s7 or s8)

40 S9

1764248 S7

126814 S8

s10 40 S S9 AND (S7 OR S8)

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>>>W: Duplicate detection is not supported for File 441.

Records from unsupported files will be retained in the RD set.

s11 23 RD (UNIQUE ITEMS)

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Processing

23 S11

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s12 6 S S11/2004-2006

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23 S11

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13/5/1 (Item 1 from file: 5)

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Biosis Previews(R)

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0014500936 Biosis No.: 200300469655

**Apparatus for compressing a spinal disc space disposed between two adjacent vertebral bodies of a cervical spine**

**Author:** Michelson Gary K (Reprint)

**Journal:** Official Gazette of the United States Patent and Trademark Office Patents 1274 ( 2 ): Sep. 9, 2003 2003

**Medium:** e-file

**Patent Number:** US 6616666 **Patent Date Granted:** September 09, 2003 20030909 **Patent Classification:** 606-61 **Patent Country:** USA

**ISSN:** 0098-1133 (ISSN print)

**Document Type:** Patent

**Record Type:** Abstract

**Language:** English

**Abstract:** Anatomically **contoured** anterior cervical **plates** with **bone** ingrowth surfaces, providing for intersegmental compressive preloading, and a rigid and locked interface to all of the **bone screws**, with those engaging the vertebrae deployed in highly convergent pairs. The **bone screws** have a tapered self-tapping leading end, an increasing root diameter with a generally constant outer diameter with a **thread** that is narrow and sharp throughout and an enlarged head portion capable of an interference fit to the receiving **holes** of the plate. Instrumentation consists of plate holders, a compression apparatus and a pilot **hole** forming device that interlocks with the **plate**. Methods for spinal compression and **bone hole** preparation are provided.

**Descriptors:**

**Major Concepts:** Biomedical Engineering--Allied Medical Sciences; Methods and Techniques; Orthopedics--Human Medicine, Medical Sciences; Surgery--Medical Sciences

**Methods & Equipment:** anatomically **contoured** anterior cervical plates--prosthetic; **bone hole** preparation method--clinical techniques, therapeutic and prophylactic techniques; intersegmental compressive preloading--clinical techniques, therapeutic and prophylactic techniques; spinal disc space compressing apparatus--prosthetic

**Concept Codes:**

10511 Biophysics - Bioengineering

11105 Anatomy and Histology - Surgery

12512 Pathology - Therapy

18006 Bones, joints, fasciae, connective and adipose tissue - Pathology

? t s13/5/2-17

13/5/2 (Item 2 from file: 5)

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Biosis Previews(R)

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0014479150 Biosis No.: 200300447869

**Surgical implant**

**Author:** Collins Simon Nicholas (Reprint); Fletcher David Mark

**Author Address:** Gloucestershire, UK\*\*UK

**Journal:** Official Gazette of the United States Patent and Trademark Office Patents 1274 ( 1 ): Sep. 2, 2003 2003

**Medium:** e-file

**Patent Number:** US 6613053 **Patent Date Granted:** September 02, 2003 20030902 **Patent Classification:** 606-

69 **Patent Assignee:** Corin Limited, Cirencester, UK **Patent Country:** USA

**ISSN:** 0098-1133 \_ (ISSN print)

**Document Type:** Patent

**Record Type:** Abstract

**Language:** English

**Abstract:** A surgical implant, typically a cervical plate assembly, comprises a plate having at least two **apertures** and two **screw threaded** fastening devices for securing the **plate to bone**. Each **aperture** in the **plate** has an annular groove intermediate opposite ends of the **aperture** and each fastening device comprises an outer **screw** and an inner **plug**. The **screw** has a head at one end, a tip at the other end, an externally **threaded** shank between the head and the tip and an internal bore extending axially through the head and at least part way into the shank for receiving the inner **plug**. The head comprises a plurality of resiliently **deformable** fingers separated by one another by axially extending slits. Each finger has an outwardly projecting rib extending circumferentially of the head intermediate opposite ends of the finger for snap fit engagement in the annular groove of a respective plate **aperture**. The inner **plug** is arranged so that when it is inserted into the internal bore of the **screw** it will prevent contraction of the head of the **screw** thereby preventing the ribs disengaging from the groove.

**Descriptors:**

**Major Concepts:** Equipment Apparatus Devices and Instruments; Orthopedics--Human Medicine, Medical Sciences; Surgery--Medical Sciences

**Methods & Equipment:** annular groove--medical equipment; assembly **aperture**--medical equipment; bone **screw**--medical equipment; cervical plate assembly-- medical equipment; **screw threaded** fastening device--medical equipment; surgical implant--medical equipment

**Concept Codes:**

11105 Anatomy and Histology - Surgery

12512 Pathology - Therapy

18006 Bones, joints, fasciae, connective and adipose tissue - Pathology

13/5/3 (Item 3 from file: 5)

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Biosis Previews(R)

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0014407833 **Biosis No.:** 200300366552

**Single-lock anterior cervical plating system**

**Author:** Michelson Gary K (Reprint)

**Journal:** Official Gazette of the United States Patent and Trademark Office Patents 1272 ( 3 ): July 15, 2003 2003

**Medium:** e-file

**Patent Number:** US 6592586 **Patent Date Granted:** July 15, 2003 20030715 **Patent Classification:** 606-71

**Patent Country:** USA

**ISSN:** 0098-1133 \_ (ISSN print)

**Document Type:** Patent

**Record Type:** Abstract

**Language:** English

**Abstract:** Anatomically contoured anterior cervical plates with bone ingrowth surfaces, providing for intersegmental compressive preloading, and a rigid and locked interface to all of the bone screws, with those engaging the vertebrae deployed in highly convergent pairs. The bone screws have a tapered self-tapping leading end, an increasing root diameter with a generally constant outer diameter with a **thread** that is narrow and sharp throughout and an enlarged head portion capable of an interference fit to the receiving **holes** of the plate. Instrumentation consists of plate holders, a compression apparatus and a pilot **hole** forming device that interlocks with the **plate**. Methods for spinal compression and **bone hole** preparation are provided.

**Descriptors:**

**Major Concepts:** Equipment Apparatus Devices and Instruments; Orthopedics--Human Medicine, Medical Sciences

**Methods & Equipment:** single-lock anterior cervical plating system--medical equipment

**Concept Codes:**

18006 Bones, joints, fasciae, connective and adipose tissue - Pathology

13/5/4 (Item 4 from file: 5)

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Biosis Previews(R)

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0014407543 **Biosis No.:** 200300366262

**Bone fastener and instrument for insertion thereof**

**Author:** Sevrain Lionel C (Reprint); Sevrain Christophe J P; Shearin Alan

**Author Address:**

Ridgefield, WA, USA\*\*USA

**Journal:** Official Gazette of the United States Patent and Trademark Office Patents 1272 ( 2 ): July 8, 2003 2003

**Medium:** e-file

**Patent Number:** US 6589244 **Patent Date Granted:** July 08, 2003 20030708 **Patent Classification:** 606-72

**Patent Assignee:** Walter Lorenz Surgical, Inc. **Patent Country:** USA

**ISSN:** 0098-1133 (ISSN print)

**Document Type:** Patent

**Record Type:** Abstract

**Language:** English

**Abstract:** A bone member fastener for closing a craniotomy includes a cap and a base interconnected by a narrow cylindrical collar. The cap has an externally **threaded** stud that screws into an internally **threaded** bore of the collar, thereby allowing the cap and base to be brought into clamping engagement against the internal and external faces of a **bone plate** and surrounding **bone**. In a particularly disclosed embodiment, the base of the fastener is placed below a craniotomy **hole** with the collar projecting into the **hole**, and the stud of the cap is screwed into the bore of the base from above the **hole** to clamp a bone flap against the surrounding cranium. This device provides a method of quickly and securely replacing a bone cover into a craniotomy. The distance between the cap and base can be selected by how far the **threaded** stud of the cap is advanced into the internally **threaded** collar. The fastener is therefore adaptable for use in several regions of the skull having various thicknesses. An insertion **tool** with a long handle permits safe and convenient placement of the base between the brain and the internal face of the **bone plate**. Some

disclosed embodiments of the fastener have a cap and base that conform to the curved surface of the skull, for example by having an arcuate **shape** or flexible members that conform to the curvature of the **bone plate** and surrounding cranial **bone** as the fastener is tightened.

**Descriptors:**

**Major Concepts:** Equipment Apparatus Devices and Instruments; Orthopedics--Human Medicine, Medical Sciences

**Methods & Equipment:** bone fastener--medical equipment; bone fastener insertion instrument-- medical equipment  
**Concept Codes:**

18006 Bones, joints, fasciae, connective and adipose tissue - Pathology

13/5/5 (Item 5 from file: 5)

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Biosis Previews(R)

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0014345144 Biosis No.: 200300313863

**Surgical device and method for connection of fractured bones**

**Author:** Gotfried Yechiel (Reprint)

**Author Address:** 10, Ben-Gurion Ave., 27000 Kiriat Blalik, Israel\*\*Israel

**Journal:** Official Gazette of the United States Patent and Trademark Office Patents 1271 ( 2 ): June 10, 2003 2003

**Medium:** e-file

**Patent Number:** US 6575974 **Patent Date Granted:** June 10, 2003 20030610 **Patent Classification:** 606-67

**Patent Country:** USA

**ISSN:** 0098-1133 \_ISSN print)

**Document Type:** Patent

**Record Type:** Abstract

**Language:** English

**Abstract:** A screwdriver for re-joining first and second pieces of a fractured **bone** in cooperation with a connector plate. A **screw** has an **screw-shaped** inner end for biting into the **bone** upon passing through a bore of the connector plate, and out of a **hole** in the first **bone** piece. The screwdriver includes a first shaft unit to engage and rotate the **screw** to move the **screw** axially, and a second shaft unit to rotate an axially movable sleeve. Axial movement of the first shaft unit moves the **screw** so that the outer end of the **screw** passes through the sleeve and into the second shaft unit such that the inner end of the **screw** protrudes inwardly from an inner end of the sleeve, whereby a **threaded** outer end of the sleeve is engaged with the bore of the connector plate before the **screw** is driven into the **bone**.

**Descriptors:**

**Major Concepts:** Equipment Apparatus Devices and Instruments; Methods and Techniques; Orthopedics--Human Medicine, Medical Sciences; Surgery--Medical Sciences

**Organisms: Parts Etc:** bone--skeletal system

**Diseases:** bone fracture--bone disease, injury, surgery

**Mesh Terms:** Fractures (MeSH)

**Methods & Equipment:** connection of fractured bone--clinical techniques, therapeutic and prophylactic techniques; surgical screwdriver--surgical instrument; bone **screw**--medical supplies; connector plate--medical supplies

**Concept Codes:**

11105 Anatomy and Histology - Surgery

12512 Pathology - Therapy

18004 Bones, joints, fasciae, connective and adipose tissue - Physiology and biochemistry

18006 Bones, joints, fasciae, connective and adipose tissue - Pathology

13/5/6 (Item 6 from file: 5)

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Biosis Previews(R)

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0014214079 Biosis No.: 200300172798

**Locking element for locking at least two bone screws to an orthopedic device**

**Author:** Michelson Gary K (Reprint)

**Journal:** Official Gazette of the United States Patent and Trademark Office Patents 1268 ( 1 ): Mar. 4, 2003 2003

**Medium:** e-file

**Patent Number:** US 6527776 **Patent Date Granted:** March 04, 2003 20030304 **Patent Classification:** 606-70

**Patent Country:** USA

**ISSN:** 0098-1133 (ISSN print)

**Document Type:** Patent

**Record Type:** Abstract

**Language:** English

**Abstract:** Anatomically contoured anterior cervical plates with bone ingrowth surfaces, providing for intersegmental compressive preloading, and a rigid and locked interface to all of the bone screws, with those engaging the vertebrae deployed in highly convergent pairs. The bone screws have a tapered self-tapping leading end, an increasing root diameter with a generally constant outer diameter with a thread that is narrow and sharp throughout and an enlarged head portion capable of an interference fit to the receiving holes of the plate.

Instrumentation consists of plate holders, a compression apparatus and a pilot hole forming device that interlocks with the plate. Methods for spinal compression and bone hole preparation are provided.

**Descriptors:**

**Major Concepts:** Equipment Apparatus Devices and Instruments; Orthopedics--Human Medicine, Medical Sciences

**Methods & Equipment:** bone screws--medical supplies; bone screw locking element-- medical supplies; orthopedic device--medical equipment

**Concept Codes:**

18006 Bones, joints, fasciae, connective and adipose tissue - Pathology

13/5/7 (Item 7 from file: 5)

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0013940521 Biosis No.: 200200534032

**Volar fixation system with articulating stabilization pegs**

**Author:** Orbay Jorge L; Leone James (Reprint)

**Author Address:** Miami, FL, USA\*\*USA

**Journal:** Official Gazette of the United States Patent and Trademark Office Patents 1261 ( 4 ): Aug. 27, 2002 2002

**Medium:** e-file

**Patent Number:** US 6440135 **Patent Date Granted:** August 27, 2002 20020827 **Patent Classification:** 606-69

**Patent Assignee:** Hand Innovations, Inc. **Patent Country:** USA

**ISSN:** 0098-1133

**Document Type:** Patent

**Record Type:** Abstract

**Language:** English

**Abstract:** A volar fixation system includes a T-shaped plate intended to be positioned against the volar side of the radial bone, a plurality of bone screws for securing the plate along a non-fractured portion of the radial bone, and a plurality of bone pegs which extend from the plate and into bone fragments of a Colles' fracture. The plate includes including a plurality of screw holes and a plurality of threaded peg holes. The bone pegs can be articulated through a range of angles within respective peg holes and fixed at a desired angle within the range. For each peg, once the peg has been appropriately positioned within the peg hole, a set screw is threaded into the peg hole and tightened, thereby securing the peg in the selected orientation.

**Descriptors:**

**Major Concepts:** Equipment, Apparatus, Devices and Instrumentation; Orthopedics--Human Medicine, Medical Sciences

**Methods & Equipment:** volar fixation system with articulated stabilization pegs--medical equipment

**Concept Codes:**

18006 Bones, joints, fasciae, connective and adipose tissue - Pathology

13/5/8 (Item 8 from file: 5)

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0013895498 **Biosis No.:** 200200489009

**Single-lock anterior cervical plate**

**Author:** Michelson Gary K

**Journal:** Official Gazette of the United States Patent and Trademark Office Patents 1261 ( 1 ): Aug. 6, 2002 2002

**Medium:** e-file

**Patent Number:** US 6428542 **Patent Date Granted:** August 06, 2002 20020806 **Patent Classification:** 606-70

**Patent Country:** USA

**ISSN:** 0098-1133

**Document Type:** Patent

**Record Type:** Abstract

**Language:** English

**Abstract:** Anatomically contoured anterior cervical plates with bone ingrowth surfaces, providing for intersegmental compressive preloading, and a rigid and locked interface to all of the bone screws, with those engaging the vertebrae deployed in highly convergent pairs. The bone screws have a tapered self-tapping leading end, an increasing root diameter with a generally constant outer diameter with a thread that is narrow and sharp throughout and an enlarged head portion capable of an interference fit to the receiving holes of the plate. Instrumentation consists of plate holders, a compression apparatus and a pilot hole forming device that interlocks with the plate. Methods for spinal compression and bone hole preparation are provided.

**Descriptors:**

**Major Concepts:** Equipment, Apparatus, Devices and Instrumentation; Orthopedics--Human Medicine, Medical Sciences; Surgery--Medical Sciences

**Methods & Equipment:** bone **hole** preparation method--therapeutic method; single-lock anterior cervical plate--medical equipment; spinal compression method-- therapeutic method

**Concept Codes:**

12512 Pathology - Therapy

18006 Bones, joints, fasciae, connective and adipose tissue - Pathology

13/5/9 (Item 9 from file: 5)

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0013864058 **Biosis No.:** 200200457569

**Anterior cervical plating system, instrumentation, and method of installation**

**Author:** Michelson Gary K

**Journal:** Official Gazette of the United States Patent and Trademark Office Patents 1260 ( 2 ): July 9, 2002 2002

**Medium:** e-file

**Patent Number:** US 6416528 **Patent Date Granted:** July 09, 2002 20020709 **Patent Classification:** 606-185

**Patent Country:** USA

**ISSN:** 0098-1133

**Document Type:** Patent

**Record Type:** Abstract

**Language:** English

**Abstract:** Anatomically **contoured** anterior cervical plates with **bone** ingrowth surfaces, providing for intersegmental compressive preloading, and a rigid and locked interface to all of the bone **screws**, with those engaging the vertebrae deployed in highly convergent pairs. The bone **screws** have a tapered self-tapping leading end, an increasing root diameter with a generally constant outer diameter with a **thread** that is narrow and sharp throughout and an enlarged head portion capable of an interference fit to the receiving **holes** of the plate.

Instrumentation consists of plate holders, a compression apparatus and a pilot **hole** forming device that interlocks with the **plate**. Methods for spinal compression and **bone hole** preparation are provided.

**Descriptors:**

**Major Concepts:** Equipment, Apparatus, Devices and Instrumentation; Methods and Techniques; Orthopedics--Human Medicine, Medical Sciences; Surgery--Medical Sciences

**Methods & Equipment:** anterior cervical plating system--anatomically **contoured**, medical equipment; bone **hole** preparation--surgical method; bone **screws**--increasing root diameter, medical equipment, self-tapping leading end; compression apparatus--increasing root diameter, medical equipment, self-tapping leading end; pilot **hole** forming device-- increasing root diameter, medical equipment, self-tapping leading end; plate holders--increasing root diameter, medical equipment, self-tapping leading end; spinal compression method--surgical method

**Concept Codes:**

12512 Pathology - Therapy

18006 Bones, joints, fasciae, connective and adipose tissue - Pathology

13/5/10 (Item 10 from file: 5)

Fulltext available through: [SCIENCEDIRECT](http://www.sciencedirect.com)

Biosis Previews(R)

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0013784172 Biosis No.: 200200377683

### **Apparatus for rigidly fixing craniomaxillofacial tissue grafts and bone plates**

**Author:** Carchidi Joseph Edward (Reprint); Balfour Alan R

**Author Address:** 132 Samuel Ave., West Bridgewater, MA, 02379, USA\*\*USA

**Journal:** Official Gazette of the United States Patent and Trademark Office Patents 1259 ( 1 ): June 4, 2002 2002

**Medium:** e-file

**Patent Number:** US 6398785 **Patent Date Granted:** June 04, 2002 20020604 **Patent Classification:** 606-73

**Patent Country:** USA

**ISSN:** 0098-1133

**Document Type:** Patent

**Record Type:** Abstract

**Language:** English

**Abstract:** A self-drilling and tapping multi-drive bone screw (10) for rigid fixation of craniomaxillofacial tissue grafts and bone plates has a tip (12a) which incorporates a defined twist drill shaft with a sharp cutting point tip (12b) to easily pierce and drill a pilot hole and prepare for the insertion of self-tapping screw threads (12c). A cylindrical dome shaped head (14) for rigid fixation of craniomaxillofacial tissue grafts and geometrically sized bone plates is formed on the screw distal to the drilling and tapping features. A spline feature (14e) is incorporated into the cylindrically dome shaped head for easy pickup, assembly and insertion of the bone screw (10) with a corresponding spline driver tool (20). The spline driver feature also allows the bone screw (10) to be driven with either a standard square or cross blade driver tool.

#### **Descriptors:**

**Major Concepts:** Equipment, Apparatus, Devices and Instrumentation; Orthopedics--Human Medicine, Medical Sciences; Surgery--Medical Sciences

**Organisms:** Parts Etc: bone graft--skeletal system; craniomaxillofacial tissue graft--skeletal system

**Methods & Equipment:** multi-drive bone screw tapping and self-drilling apparatus--surgical instrument

#### **Concept Codes:**

12512 Pathology - Therapy

18004 Bones, joints, fasciae, connective and adipose tissue - Physiology and biochemistry

18006 Bones, joints, fasciae, connective and adipose tissue - Pathology

13/5/11 (Item 11 from file: 5)

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0013687440 Biosis No.: 200200280951

### **Volar fixation system**

**Author:** Orbay Jorge L

**Journal:** Official Gazette of the United States Patent and Trademark Office Patents 1257 ( 1 ): Apr. 2, 2002 2002

**Medium:** e-file

**Patent Number:** US 6364882 **Patent Date Granted:** April 02, 2002 20020402 **Patent Classification:** 606-69

**Patent Assignee:** Hand Innovations, Inc. **Patent Country:** USA

**ISSN:** 0098-1133

**Document Type:** Patent

**Record Type:** Abstract

**Language:** English

**Abstract:** A volar fixation system includes a T-shaped plate intended to be positioned against the volar side of the radial bone, a plurality of bone screws for securing the plate along a non-fractured portion of the radial bone, and a plurality of bone pegs which extend from the plate and into bone fragments of a Colles' fracture. The plate is a T-shaped plate including a plurality of screw holes and a plurality of threaded peg holes. According to a first preferred aspect of the invention, the peg holes are preferably linearly or parabolically arranged and provided such that the holes are positioned increasingly distal in a medial to lateral direction along the second side. According to a second preferred aspect, axes through the holes are oblique relative to each other and preferably angled relative to each other in two dimensions. The system includes a guide plate which temporarily sits on top of the volar plate and includes holes oriented according to the axes of the peg holes for guiding a drill into the bone fragments at the required orientation. The volar plate is positioned against the radius and screws are inserted through the screw holes to secure the volar plate to the radius. The bone fragments are aligned, and the guide plate assists in drilling pilot hole. The pegs are inserted through the peg holes and into the drilled holes in the bone. The volar system thereby secures the bone fragments in proper orientation.

**Descriptors:**

**Major Concepts:** Equipment, Apparatus, Devices and Instrumentation; Orthopedics--Human Medicine, Medical Sciences

**Methods & Equipment:** volar fixation system--prosthetic

**Concept Codes:**

18006 Bones, joints, fasciae, connective and adipose tissue - Pathology

13/5/12 (Item 12 from file: 5)

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0013098466 **Biosis No.:** 200100270305

**Anterior lateral spine cage-plate fixation device and technique**

**Author:** LeHuec Jean-Charles (Reprint); Liu Mingyan; Josse Loic

**Author Address:** Bordeaux, France\*\*France

**Journal:** Official Gazette of the United States Patent and Trademark Office Patents 1241 ( 1 ): Dec. 5, 2000 2000

**Medium:** e-file

**Patent Number:** US 6156037 **Patent Date Granted:** December 05, 2000 20001205 **Patent Classification:** 606-

**61 Patent Assignee:** SDGI Holdings, Inc. **Patent Country:** USA

**ISSN:** 0098-1133

**Document Type:** Patent

**Record Type:** Abstract

**Language:** English

**Abstract:** An interbody fusion cage has an externally **threaded** stem projecting from a domed outer end. A **contoured** plate is provided with an **aperture** receivable on the stem. The stem **threads** receive a nut to fix the **plate** to the cage. **Bone screws** anchor the **plate** to vertebral bodies. A hemispherical surface on the plate and surrounding the stem-receiving **aperture** and bearing on the dome, accommodates universal angulation of the plate relative to the cage. In addition to a cage installation **tool**, there is a plate installation **tool** assembly including a cage installer, a plate holder, a nut holder and cage adjuster, a nut driver, and a plate holding prong controller.

**Descriptors:**

**Major Concepts:** Equipment, Apparatus, Devices and Instrumentation; Orthopedics--Human Medicine, Medical Sciences; Methods and Techniques

**Methods & Equipment:** anterior lateral spine cage-plate fixation device--medical equipment; anterior lateral spine cage-plate fixation technique--surgical method

**Concept Codes:**

00532 General biology - Miscellaneous

13/5/13 (Item 13 from file: 5)

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0012567868 Biosis No.: 200000286181

**Provisional fixation pin**

**Author:** Castleman David (Reprint)

**Author Address:** Bartlett, TN, USA\*\*USA

**Journal:** Official Gazette of the United States Patent and Trademark Office Patents 1227 (3): Oct. 19, 1999 1999

**Medium:** e-file

**Patent Number:** US 5968046 **Patent Date Granted:** October 19, 1999 19991019 **Patent Classification:** 606-73

**Patent Assignee:** Smith and Nephew, Inc., DE, USA **Patent Country:** USA

**ISSN:** 0098-1133

**Document Type:** Patent

**Record Type:** Abstract

**Language:** English

**Abstract:** A method and apparatus for reducing a fracture provides a provisional fixation pin to provisionally affix the **bone plate** to the **bone** prior to the installation of the **bone plate** with permanent attachment, such as **bone screws**. The method and apparatus of the present invention will maintain some reduction without significantly compromising the bone. The method utilizes a provisional fixation pin having an upper or proximal unthreaded shaft section and a lower externally **threaded** shaft section. A cutting tip is provided at the extreme distal end of the fixation pin. In between the proximal and distal sections is an enlarged diameter section that has an annular surface sized and shaped to conform to the countersunk surface of **openings** in the **bone plate**.

**Descriptors:**

**Major Concepts:** Equipment, Apparatus, Devices and Instrumentation; Orthopedics--Human Medicine, Medical Sciences

**Methods & Equipment:** provisional fixation pin--medical supplies

**Concept Codes:**

00532 General biology - Miscellaneous

13/5/14 (Item 14 from file: 5)

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0012229518 Biosis No.: 199900489178

### **Inside-outside technique for posterior occipitocervical spine instrumentation and stabilization: Preliminary results**

**Author:** Pait T Glenn (Reprint); Al-Mefty Ossama; Boop Frederick A; Arnautovic Kenan I; Rahman Salim; Ceola Wade

**Author Address:** Department of Neurosurgery, University of Arkansas for Medical Sciences, 4301 West Markham Street, Little Rock, AR, 72205-7199, USA\*\*USA

**Journal:** Journal of Neurosurgery 90 ( 1 SUPPL. ): p 1-7 Jan., 1999 1999

**Medium:** print

**ISSN:** 0022-3085

**Document Type:** Article

**Record Type:** Abstract

**Language:** English

**Abstract:** Object. The authors present a series of 16 patients who underwent inside-outside occipital and posterior cervical spine stabilization. Methods. In this technique, the screw was placed from the inside of the occiput to the outside. An articular (lateral) mass plate was contoured to the shape of the occipital bone and the cervical spine and affixed to the occiput with a flat-headed screw or stud placed through a burr hole in the calvaria with the flat head of the screw in the epidural space and the threads facing outward. The bone plate was then secured with a nut to the occipital screw and the cervical plate was attached to the spine with a bone screw that coursed through the plate and into the articular pillar. Our series included six children and 10 adults. In five patients, previous fusion had failed; in two patients spinal instability was secondary to Down's syndrome; two patients' instability was related to developmental anomalies; and in five patients spinal instability was due to the presence of tumor. One patient with rheumatoid arthritis had undergone a transoral procedure. Two patients had suffered traumatic fracture. Three patients died of causes unrelated to the procedure, one patient died of metastatic cancer, and one patient died in a long term care facility of cardiopulmonary complications. One patient with renal failure suffered a hemorrhage from an arteriovenous fistula after being treated with dialysis. In one child, a nut backed off after 3 months. The nut was reseated, and a maturing arthrodesis was present. Conclusions. The authors conclude that the inside-outside occipitocervical fixation is an effective technique for stabilizing the cervical spine.

#### **Descriptors:**

**Major Concepts:** Orthopedics--Human Medicine, Medical Sciences; Surgery--Medical Sciences

**Biosystematic Names:** Hominidae--Primates, Mammalia, Vertebrata, Chordata, Animalia

**Organisms:** human (Hominidae)--adult, child, patient

**Common Taxonomic Terms:** Animals; Chordates; Humans; Mammals; Primates; Vertebrates

**Methods & Equipment:** cervical spine stabilization--inside-outside technique, therapeutic method, posterior, occipital; spinal fusion--surgical method, therapeutic method; spinal instrumentation--equipment

#### **Concept Codes:**

18001 Bones, joints, fasciae, connective and adipose tissue - General and methods

10502 Biophysics - General

25000 Pediatrics  
12512 Pathology - Therapy  
**Biosystematic Codes:**  
86215 Hominidae

13/5/15 (Item 15 from file: 5)

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0010120790 Biosis No.: 199698588623

### **Biomechanical properties of threaded inserts for lumbar interbody spinal fusion**

**Author:** Tencer Allan F (Reprint); Hampton David; Eddy Sharon

**Author Address:** Dep. Orthop., Harborview Med. Center, ZA-48, 325 Ninth Ave., Seattle, WA 98104, USA\*\*USA

**Journal:** Spine 20 ( 22 ): p 2408-2414 1995 1995

**ISSN:** 0362-2436

**Document Type:** Article

**Record Type:** Abstract

**Language:** English

**Abstract:** Study Design: Calf and human cadaveric spines were used to determine motion segment stiffness and laxity after implantation of **threaded** inserts (the Ray **Threaded** Fusion Cage, Surgical Dynamics, Inc., Concord, CA), comparing direction of placement, number of implants, **shape** of the device, and integrity of anterior spine structures. Stiffness and laxity of spines with inserts were compared with those with **bone** grafts, with and without posterior fixation **plates**. Objectives: To determine the mechanical stabilizing properties of a **threaded** insert used for lumbar and lumbosacral fusion and the factors affecting stability. Summary of Background Data: Limited biomechanical information has shown that implantation of these devices adds stiffness to the lumbar spine, but little information is available concerning stiffness in loading directions other than flexion and extension, the effect on stiffness of position and number of implants, and the effect of this device on motion segment laxity. Methods: Mechanical properties were determined by testing lumbar vertebral motion segments in flexion, extension, lateral bending, and torsion combined with axial compressive loading. Stiffness (slope of the load/ deflection curve) and neutral zone angle or laxity (angular displacement of the vertebra from no load to 1.0 Nm moment) were determined. Initial tests were performed on calf lumbar vertebrae to determine the effects of placement and number of inserts. Comparisons of **bone** grafts and inserts with and without supplemental **plates** were made using human lumbar spines. Cylindrical- and conical-**shaped** inserts, when placed from anterior, were tested in calf spines. The load-bearing capacity of the insert supported in calf vertebral body bone was determined. Results: There was no significant effect of placement of inserts in different orientations (lateral, posterolatera), or posterior) on stiffness, except in torsion where posterior placement damaged facets or lamina, reducing stiffness. Placement of two inserts from posterior decreased flexion and lateral bending laxity compared with the intact motion segment. Compared with intact, bone grafts produced more stiffness only in lateral bending and had no effect on laxity. Supplemental posterior plates fixed by pedicle **screws** across the fusion segment increased flexion and lateral bending stiffness and reduced laxity in flexion, extenison, and lateral bending. Conical-**shaped** inserts placed from anterior into cylindrical **holes** distracted soft tissue structures, decreasing laxity. Cutting the anterior structures increased laxity by relieving some tissue tension caused by distraction. The mean maximum compressive load that could be supported by the insert was 2998 N (standard deviation = 980 N). Structural failure occurred in the supporting bone. Conclusions. **Threaded** inserts increased vertebral motion segment stiffness and decrease laxity by distracting intervertebral structures. They are not sensitive to placement, except if vertebral structures are injured during insertion and produce constructs with more consistent mechanica properties than bone grafts.

**Descriptors:**

**Major Concepts:** Skeletal System--Movement and Support; Surgery--Medical Sciences

**Biosystematic Names:** Bovidae--Artiodactyla, Mammalia, Vertebrata, Chordata, Animalia; Hominidae --Primates, Mammalia, Vertebrata, Chordata, Animalia

**Organisms:** cattle (Bovidae); human (Hominidae)

**Common Taxonomic Terms:** Artiodactyls; Nonhuman Vertebrates; Nonhuman Mammals; Animals; Chordates; Humans; Mammals; Primates; Vertebrates

**Concept Codes:**

11105 Anatomy and Histology - Surgery

11311 Chordate body regions - Lumbar

12512 Pathology - Therapy

18006 Bones, joints, fasciae, connective and adipose tissue - Pathology

**Biosystematic Codes:**

85715 Bovidae

86215 Hominidae

13/5/16 (Item 1 from file: 34)

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SciSearch(R) Cited Ref Sci

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11412893 **Genuine Article#:** 647LA **Number of References:** 12

**Scanning electron microscopic observations of 'fractured' biodegradable plates and screws**

**Author:** Kosaka M (REPRINT) ; Uemura F; Tomemori S; Kamiishi H

**Corporate Source:** Kinki Univ, Sch Med, Dept Plast & Reconstruct Surg, 377-2 Ohno Higashi/Osakasayama City/Osaka 5898511/Japan/ (REPRINT); Kinki Univ, Sch Med, Dept Plast & Reconstruct Surg, Osakasayama City/Osaka 5898511/Japan/

**Journal:** JOURNAL OF CRANIO-MAXILLOFACIAL SURGERY , 2003 , V 31 , N1 ( FEB ) , P 10-14

**ISSN:** 1010-5182 **Publication date:** 20030200

**Publisher:** CHURCHILL LIVINGSTONE , JOURNAL PRODUCTION DEPT, ROBERT STEVENSON HOUSE, 1-3 BAXTERS PLACE, LEITH WALK, EDINBURGH EH1 3AF, MIDLOTHIAN, SCOTLAND

**Language:** English **Document Type:** ARTICLE

**Geographic Location:** Japan

**Journal Subject Category:** DENTISTRY, ORAL SURGERY & MEDICINE; SURGERY

**Abstract:** Background. We encountered two out of 100 cases in which implanted biodegradable plates and screws had fractured within 1 month postoperatively. Material: Failure of the material was confirmed through clinical symptoms, radiographs or CT findings. In addition, four specimens obtained from these two cases were examined with regard to their ultrastructure using scanning electron microscopy. Results: Several principal patterns of the fractured surface were found: (1) gradual cracking, i.e. 'circular stair' and, (2) tortuous **threads**, i.e. a wavy line. It is conceivable that the material may not have been hit by major sudden forces but a disproportion between the **thread** configuration and the drilled **hole** may have led to screw loosening and torsion. Subsequently, the **threads** were **deformed** in a 'wavy' manner, finally leading to cracking and fracture of plates and screws. Fractures of plates and screws due to these instabilities are thought to be distinguishable from material resorption. Conclusion: In the application of biodegradable materials, more than two **screws** per single **bone** segment should be used as a principle of plate-fixation technique in order to avoid a stability-compromising situation, particularly in the stress-bearing

areas of the maxillofacial region. Moreover, three-dimensional fixation using more than two plates is recommended in the, facial skeleton e.g. zygomatic tripod. Intermaxillary fixation should also be considered to reinforce initial stability in stress-bearing areas. (C) 2002 European Association for Cranio-Maxillofacial Surgery.

**Identifiers-- KeyWord Plus(R): PEDIATRIC CRANIOFACIAL SURGERY; POLY(L-LACTIDE) BONE PLATES; ORTHOGNATHIC SURGERY; FIXATION**

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13/5/17 (Item 1 from file: 73)

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[EMBASE](#)

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06775259 **EMBASE No:** 1997056753

**Comparative pull-out strength of tapped and untapped pilot holes for bicortical anterior cervical screws**

Ronderos J.F.; Jacobowitz R.; Sonntag V.K.H.; Crawford N.R.; Dickman C.A.

Dr. C.A. Dickman, c/o Neuroscience Publications, Barrow Neurological Institute, 350 West Thomas Road, Phoenix, AZ 85013-4496 United States

Spine ( SPINE ) ( United States ) 1997 , 22/2 (167-170)

**CODEN:** SPIND **ISSN:** 0362-2436

**Document Type:** Journal ; Article

**Language:** ENGLISH **Summary Language:** ENGLISH

**Number Of References:** 21

**Study Design.** This biomechanical study analyzed the axial pull-out strength of tapped versus untapped pilot **holes** for bicortical **screws** in the anterior cervical spine. **Objective.** To determine which pilot **hole** preparation method was mechanically better. **Summary of Background Data.** Tapping pilot **holes** in the lumbar spine was previously shown significantly to reduce pull- out strength of pedicle **screws**. No study was found investigating the effect of tapping on pilot **holes** for anterior cervical bicortical **screws**. **Methods.** Twenty-five unembalmed human cadaveric cervical vertebrae (C3-C7) were tested. Two identical pilot **holes** were drilled into each vertebra: one pilot **hole** was tapped, and the control pilot **hole** was not tapped. A fully **threaded** cortical bone **screw** was inserted into each pilot **hole**. **Screw pull-out strength** was determined using a servocontrolled hydraulic materials testing system and an axial load cell. **Force-deformation** and failure curves were obtained. **Results.** There were no statistically significant differences between the axial pull-out strength of tapped and untapped pilot **holes** at any vertebral level. Mean force-to-failure was 386 +/- 42 N in the untapped pilot **holes** and 397 +/- 48 N in the tapped pilot **holes**. **Conclusions.** Tapping a pilot

**hole** for bicortical screws of the anterior cervical spine neither weakens nor strengthens the axial pull-out strength of fully **threaded** cortical bone screws. Tapping may be unnecessary; however, it may be desirable in patients with dense bone to cut the **thread** profile into the bone or if the screws have dull tips and **threads**.

**DRUG DESCRIPTORS:**

methacrylic acid methyl ester

**MEDICAL DESCRIPTORS:**

\* cervical spine injury--surgery--su; \*spine stabilization

adult; aged; article; biomechanics; **bone plate**; **bone screw**; cadaver; clinical article; controlled study; female; human; human tissue; male; priority journal; spine injury--surgery--su; spine surgery; vertebra body

**CAS Registry Number:** 80-62-6 (methacrylic acid methyl ester)

**Section Headings:**

027 Biophysics, Bioengineering and Medical Instrumentation

033 Orthopedic Surgery

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Set	Items	Description
S1	27633	S BONE? ?(10N)PLATE? ?
S2	2928202	S DEFORM??? OR DEFORMA???? OR SHAPE?? OR SHAPING? OR CONTOUR?
S3	2959	S S1 AND S2
S4	82531	S THREAD?? OR THREADING???
S5	60	S S3 AND S4
S6	1112839	S HOLE? ? OR APERTURE? ? OR OPENING? ?
S7	1764248	S TOOL? ?
S8	126814	S SCREW? ?
S9	40	S S5 AND S6
S10	40	S S9 AND (S7 OR S8)
S11	23	RD (unique items)
S12	6	S S11/2004-2006
S13	17	S S11 NOT S12

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### Estimated Cost Summary

434	0.1340	3.15	0.00	0.00	0.00	0.00	0.00	0.00	0.00	3.15
155	0.6100	2.07	0.00	0.00	0.00	0.00	0.00	0.00	0.00	2.07
441	0.0740	0.54	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.54
Sub Totals	5.8610	\$56.75	\$0.00	\$42.92	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$99.67
Session Totals	14.2330	\$208.74		Telecom	\$1.71					\$253.35

Holding session beginning: 11/6/06 3:15:12 PM

Just enter a command to reestablish your session

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